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ABSTRACT

This collection of seven articles examines achievement-based resourcing (ABR), the concept that the funding of educational institutions should be linked to their success in promoting student achievement, with a focus on the application of ABR to postsecondary education in the United Kingdom. The articles include: (1) "Introduction" (Mick Fletcher), which discusses the current shortcomings and possible future directions of ABR; (2) "Achievement-Based Resourcing: Purpose and Prospects" (Richard Gorringe), which examines ABR in the context of the Further and Higher Education Act of 1992 and other national developments; (3) "A Credit-Based Resource Model for Further Education" (Peter Wilson), which outlines a credit-based model of postsecondary education designed to widen access, improve quality, and increase flexibility; (4) "Resourcing Tomorrow's College" (Mike Field), which examines several methods for the funding of postsecondary education; (5) "Are We Really Considering the Customers?" (Tony Webb), which examines the case for extending the training credits initiative to cover full-time postsecondary education; (6) "Achievement-Based Resourcing" (Lindsay Martin), which looks at the use of output-related funding by the Department of Employment; and (7) "Achievement-Based Resourcing: A College Manager's View" (Jenny Shackleton), which discusses the implementation of an ABR approach at Wirral Metropolitan College. (MDM)

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The Staff College

Achievement-based resourcing

by Mick Fletcher
and other contributors

Coombe Lodge Report

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by Mick Fletcher, Richard Gorringe,
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Editor: Pippa Toogood

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Coombe Lodge Reports

The Coombe Lodge Reports, published approximately 10 times per year, are key reference texts for those involved with the management of post-compulsory education. Each issue focuses on a single theme relevant to the management of further and higher education.

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Achievement-based resourcing

by Mick Fletcher, Richard Gorringe, Peter Wilson, Mike Field, Tony Webb, Lindsay Martin and Jenny Shackleton

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Chapter 1

Introduction

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The Staff College

Achievement-based resourcing (ABR) is a dangerous concept. It is, to judge by the chapters in this report or by the various projects currently operating under this title, an idea whose time has come. The central premise, that the resourcing of institutions should be linked in some way to their success in promoting student achievement is readily accepted by both those in further education and those who comment upon it.

A combination of circumstances makes it appropriate to review the way in which resources are allocated to colleges; the curriculum thrust led by the National Council for Vocational Qualifications (NCVQ) is undermining traditional course structures and a system of qualifications based on time serving; there is increasing interest among funding agencies in linking resources to outcomes rather than inputs; there is growing interest at the same time in the notion of value added as a counterweight to less sophisticated ways of assessing output. Above all there is the opportunity offered by the establishment of the Further Education Funding Council to break with tradition.

This introductory chapter sounds a note of caution. While achievement-based resourcing is difficult to oppose in principle, it is difficult to operationalise in practice. We have little experience of operating output-driven systems and what experience we have is not encouraging. Above all it is necessary to recognise what can be achieved through the operation of a national resourcing mechanism and what cannot. It represents at best a fairly crude instrument, capable for example of encouraging (or discouraging) a growth in productivity; it is not an

appropriate instrument for promoting detailed changes in the way the FE curriculum is delivered. This chapter is also about limits. It seeks to establish how far it is practicable to build the insights generated by the debate about ABR into a resourcing system. It seeks to establish which areas of college practice might be directly affected by the chosen resourcing methodology and which areas remain essentially matters for local discretion.

It may be helpful to start by reviewing the criticisms of the present funding régime which seem to inspire proponents of ABR. There are four main charges, emphasised to varying degrees by different authors.

CURRENT MODELS TAKE NO ACCOUNT OF SUCCESS

The current arrangement for funding colleges is described in the schemes of local financial management established by local authorities according to the Department of Education and Science (DES, now the Department for Education) guidelines. The formulae set out in the schemes relate essentially to student throughput and do not distinguish between those students who succeed and those who fail. It is correct, therefore, to say that the resourcing mechanism itself does not reward those colleges which are more effective in promoting student learning. There seems to be general enthusiasm for rewarding successful colleges. However, there are many who seem to believe it is possible to reward successful colleges without penalising unsuccessful ones.

NO ACCOUNT IS TAKEN OF STUDENT PROGRESS

A more sophisticated version of the first criticism is that no account is taken of value added. A resourcing mechanism, it is argued, should be linked to the progress that students make, reflecting not just their finishing point but where they started. This would enable the system to reward those institutions that achieved good results with unpromising intakes, or likewise those institutions which could record exceptional progress from average intakes. Once again the basic idea seems sound. Some of its proponents however have difficulty in accepting that a national system could only work in terms of very general assessments of starting and finishing points.

THE CONCEPT OF FULL-TIME EQUIVALENTS IS FUNDAMENTALLY FLAWED

There are several criticisms offered of the concept of the full-time equivalent student (FTE). Some argue that the measure is biased against part-time students and others that it is biased against full-time. Both are wrong. Individual decisions on how to calculate full-time equivalents may contain bias, intentional or otherwise, but there is no 'inherent' bias one way or the other. There is however a conceptual problem. Attempts to calculate the full-time equivalent value of part-time students generally start from a comparison of the teaching hours committed to full-time and part-time programmes. If full-time students are typically taught for 24 hours per week then students taught for six hours per week count as 0.25. There is something wrong in principle with calculating what is intended to be an output measure with reference to a measure of inputs. This is not just a theoretical point. As has been pointed out frequently there is little incentive to increase efficiency if a saving of resources (by reducing teaching hours) brings a concomitant decrease in output.

CURRENT ARRANGEMENTS PRESUPPOSE A COURSE BASED SYSTEM

The current local authority resourcing mechanisms have been established in the context of a course-based system and, it is argued, cannot cope adequately with moves towards an open and flexible curriculum. Certainly there are instances where this is true – for example schemes that count all open learning activity as if it were a proxy for evening classes by giving a conversion factor of 0.075 for calculating FTEs. There also appears to be a problem both at national level and in some LEAs concerning the treatment of part-time day students not released from their employers; by compressing all this group into a single mode of attendance with a single conversion factor, little account is taken of the variety of educational outcomes aimed for and achieved by a diverse group of students.

THE SOLUTIONS?

Figure 1 seeks to explore how the above criticisms relate to proposed solutions. It compares two choices. On the horizontal scale it seeks to distinguish a concern to measure output from a concern to measure value added, the critical difference being that in the latter, output is referenced to the starting point of the student.

The vertical dimension distinguishes whether the predominant concern is with identifying success in achieving outcomes, or with attempting to find an alternative way of calculating the volume of activity in an institution – a replacement for the FTE measure.

Figure 1: Achievement-based resourcing

	Measures of output	Measures of value added
Concern with success	Output-related funding	Progression-related funding
Concern with volume	Credit-based funding	Credit-added funding

The top left-hand box represents a concern with success and an acceptance of output measures as evidence of success. Its implementation can conveniently be characterised as output-related funding (ORF). Such a system is relatively simple to implement. A proportion of agreed funding would be held back and only released upon it being demonstrated that students had achieved an agreed proportion of successful outcomes (the release of the holdback then being termed a 'bonus'). There are clear dangers; the danger of rewarding institutions that are favourably placed rather than those that work well, and the danger of encouraging institutions to concentrate on those students who are 'safe bets'.

The value added argument seeks to address these concerns and one might characterise a solution in the top right-hand box as progression-related funding. The mechanism is essentially the same but the range of acceptable outcomes is modified to take account of student starting points. Current Employment Training (ET) and Youth Training (YT) funding arrangements represent a practical implementation of progression-related funding (see chapter by Lindsay Martin). Those who are unhappy with the crudeness of the categories used

should reflect on the practical difficulties of implementing anything much more sophisticated.

The more radical solutions are those posed by the lower two boxes. Here the concern is not so much with whether a student achieved or not but with how to represent the size of one achievement against another. It is in essence a search for a volume measurement to replace the FTE. The concept that is increasingly finding favour is that of credit or credit hour – the assessment of the scale of an achievement in terms of the notional learning time required by a typical student. It is intended to be independent of any mode of study and not intended to be systematically related to levels of teacher or other input. It links well with curriculum developments where courses are increasingly being disaggregated into free standing units or modules. The concept of notional learning time enables a relationship to be established in common units between curriculum modules which vary significantly on the basis of their inherent subject matter. It is not necessary to force learning artificially into chunks of the same size; simply have a common unit in terms of which their relative sizes can be described.

The key question, which some research projects are beginning to answer, relates to how a credit value is assigned to a learning unit. For the credit to be the basis for any resourcing system the process of ascribing credit value needs to be relatively simple and unambiguous.

A system based simply on counting credits might be termed **credit-based** funding; there remains the possibility of a value added version which we might term **credit-added** funding. This in essence attaches the credit value to the student programme of study rather than the programme in itself. The logic is clear and the practical difficulties of carrying it out on anything other than a very generalised basis remain immense.

There is of course a further refinement – a credit-based model which is modified by the extent to which students are successful in achieving planned outcomes. Logically there are two versions – success can be measured in output or value added terms. Although a move to a model like this seems a major complication it is in fact not such a large step. If a credit-based system rests clearly on the specification of what is to be achieved, then there is less room for argument over what constitutes a successful outcome.

The term 'achievement-based resourcing' has been used loosely to describe schemes with any and all of the above features in varying degrees of rigour. It

is proposed here to keep it as a general term and to explore how far the various features analysed separately above might be incorporated in a practical model. In particular it is necessary to explore how far it might be possible to move towards a 'credit-added system' that takes into account actual achievements.

The benefits of moving towards a system of achievement-based resourcing have been spelt out on many occasions. The drawbacks have received less extensive treatment. There seem to be two major difficulties (apart from having to accept the uncomfortable conclusion that in a system with finite resources, rewarding successful outcomes means penalties for the unsuccessful). The first concerns the inability of institutions at present to specify adequately the full range of outcomes achieved by students. This is perhaps most marked in the case of full-time students and most significant in relation to the 16-19 age group. Those in colleges are reluctant to accept that certificates awarded to students represent the sum total of their output. Reference is made to developing the skills of an effective learner; developing maturity and breadth of understanding. Some progress is being made towards delineating these achievements in terms of the concept of core skills, but much more needs to be done. **Figure 2** represents the scale of the problem comparing, as an extreme case, the output of an A level evening class (three hours per week x 1 year) and a full-time A level group (three A levels over two years) assuming that the only output which matters is examination results. Moving from a methodology based on FTEs to one based on counting outputs would produce a massive transfer of resources. In the example illustrated the output-related funding for the two groups would be equal whereas current arrangements would give the full-time students nine times as much.

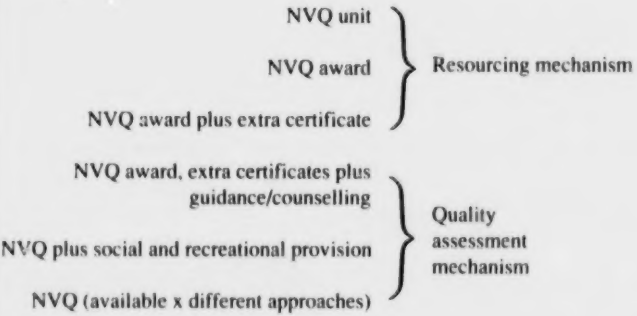
Figure 2: Acheivement-based resourcing: full- and part-time students

	Numbers	Mode converters	FTEs output	Credit	Credit output
Evening class	27	0.075	2	1 A level =	27
Full-time (2 years)	18	1	18	1	27*

* 18 students x 3 A levels ÷ 2 years

The second problem is that the notion of achievement-based resourcing sits uneasily with current concerns to develop an entitlement curriculum. The notion of entitlement is used to describe a range of facilities to which a student should have access. It can mean support and guidance; it can mean the opportunity to learn by a variety of different styles so that students can select the most appropriate to their needs. To defend the entitlement approach in achievement-based terms has involved some commentators in mental gymnastics seeking to describe, for example, the availability of self-directed study opportunities as an output when clearly it is an input. Again some limited progress has been made in specifying the kind of outputs which might be measured other than certificates – a completed action plan for example – but much more work needs to be done. **Figure 3** seeks to represent this concern diagrammatically. It suggests a number of ways in which the achievement of a student might be characterised starting from a simple NVQ award and moving towards a more complete (but less tidy) description of the total experience.

Figure 3: Achievement-based resourcing



It is suggested that only the first part of this hierarchy is the proper concern of a resourcing system. It can only deal with items which are relatively objective and unambiguous. This does not mean that the other items are of no importance; indeed it is suggested that they might be captured by a quality assessment mechanism which might conceivably be graded to identify a basic threshold which all institutions are expected to achieve and a quality threshold which might qualify for bonus payments.

It is perhaps important to emphasise at this point that for an element of college provision to survive it is not necessary for it to be identified in a resourcing formula. Current schemes of delegation do not explicitly provide resources for college libraries yet no one has suggested that for this reason libraries can safely be closed. Many of the desirable features of an entitlement curriculum can best be safeguarded not by masquerading as outputs but by an appreciation of the contribution they make to those outputs that are measurable. A high quality educational guidance service for example should improve achievement by helping ensure that students follow appropriate programmes of study.

A short-term solution to the above concerns might be found by separating the funding of full- and part-time students. If such a step is made then a workable ABR system can be proposed along the lines set out in **Figure 4**.

Figure 4: Achievement-based resourcing

Full-time

a) Definition to include:
commitment to learning +
expected outcomes x
starting point of student

b) Subject-based weighting

c) Percentage holdback/bonus for success

Part-time

a) Defined by planned credit outcome not mode
Starting point of student

b) Weighting for subject (and level)

c) Percentage holdback/bonus for success

It seems appropriate to take this opportunity to try to move the definition of a full-time student away from a simple relationship with hours of instruction. A better definition might be composed of two elements – a commitment to being a student in terms perhaps of sessions available for study and the intention to achieve one of a range of acceptable outcomes. Thus an NVQ (National Vocational Qualification) level II award might be an acceptable outcome for a full-time student whereas learning to boil an egg would not be.

If the acceptable outcome is qualified with reference to the starting point of the student some recognition is taken of the value added component. Thus two A levels might not be an acceptable outcome for someone who already possesses three whereas a much lower level of achievement would be acceptable for some special needs students.

Any model needs to recognise that the cost of supporting learning varies between study areas; there is already an established methodology for identifying the relative weight of different programme areas in order not to disadvantage institutions that focus on high cost subjects. Current local authority schemes typically identify around a dozen different programme areas. A national scheme is likely to seek some simplification.

Finally, any allocation can be modified by a holdback/bonus system which reflects the success of an institution in achieving target credits. Since the programme has been defined in output terms there is less room for debate about what constitutes success.

The funding of part-time students follows essentially the same process. There are two differences. Firstly there is no need to look for some minimum level of commitment to study. Secondly the unit of resource to be applied will not be the same as for full-time provision. Otherwise it retains the essential features of the full-time scheme – the volume of activity is determined by notional learning time, not by mode of attendance. Value added is taken into account by the reference to the students' starting point and planned achievements are checked against actual to allow the allocation to be modified by a success factor.

The scheme outlined in **Figure 4** does not represent the only way of implementing ABR in further education. It is, however, intended to illustrate what degree of complexity might be practicable and therefore how far many of the theoretical ideas currently being generated might find a place in future practice.

Chapter 2

Achievement-based resourcing: purpose and prospects

Richard Gorringe
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INTRODUCTION

The purpose of this chapter is to situate recent work on achievement-based resourcing (ABR) in the context of the national development of the further education service. It is important to be clear about why work has started on ABR; what it is intended to achieve; how it links with related developments, e.g. of more flexible colleges; and what methodologies for ABR are available, and might become available, in the near future.

National interest in ABR has been growing steadily for about five years, and has now reached the attention of senior policy-makers, including ministers. Timothy Eggar, in his speech to a Further Education Unit (FEU) conference on flexible colleges on 18th November 1991, revealed not only his own interest, but that of the Government generally. This has particular significance in the context of the current **Further and Higher Education Act** 1992 which establishes new funding arrangements for colleges. The Further Education Funding Council (FEFC) has established a Funding Mechanism Methodology Group to advise it on funding methodology from the financial year beginning 1994, of which the author is a member. The group is seriously considering the possibility of an element of achievement-based funding for colleges.

WHAT IS ACHIEVEMENT-BASED RESOURCING?

At its broadest, ABR refers to funding a college on the basis of its intended or actual outputs, defined in terms of individuals' achievements. This is quite different from funding based on intended or actual student numbers enrolled. In essence, a college would be funded to enable a certain number of learners to acquire certain achievements, rather than simply to enrol the required number of participants. Clearly, learners' achievements are only one part of the definition of a college's outputs, but they are probably the primary one. ABR, therefore, implicitly connects resources available to the primary outputs, i.e. the learners' achievements, rather than to secondary ones such as numbers and throughput. The question of what is to count as achievement would still need to be addressed, and the current FEU-supported project in Croydon is working on this (RP594).

A perhaps less specific term than ABR is output-related funding (ORF) which is used by the Training and Enterprise Councils (TECs) in relation to the way resources are provided to their contracted training providers. Outputs could be defined by a TEC in various ways ranging from qualifications gained or progression to employment, to numbers enrolled from particular client groups, e.g. disabled people. In practice, qualifications, in particular National Vocational Qualifications (NVQs), are widely used. In this sense TECs are practising a form of ABR. It tends, however, to be rather a narrow model by which the training provider, such as a college, receives funding based on trainee weeks delivered together with a bonus element for each NVQ (or other positive outcome) achieved. ABR, once applied to a college's whole portfolio, would offer the possibility of greater subtlety than this, e.g. in reflecting achievements other than formal qualifications. It would also relate to wider issues of the mission, purpose and direction of the college, as explored below.

LINKING RESOURCES TO ACHIEVEMENT

In essence, a commitment to ABR is also a commitment to placing the highest value on students' achievements in the fullest sense of the term. A college which takes this route internally is indicating that it will target its resources at students and their achievements, and is also taking an associated risk. This is because it will need to become a different kind of institution where financial allocations and rewards follow not viable courses (in terms of student numbers), but what individuals actually gain from the educational process. Achievements are far less predictable and controllable than student numbers. It follows that a college

which accepts ABR from an external body is both endorsing a commitment to being achievement-led, and compounding the possible risk. The risk involves potentially losing money when achievements are not delivered, but it is one which probably cannot be avoided if students' achievements are really to be a college's *raison d'être*.

From the perspective of a funding body such as a funding council, ABR offers the potential of stimulating colleges to become achievement-led organisations. The risk for the college is an opportunity for the funder to attempt to increase the relevance, quality and efficiency of what is provided. This is why interest is growing from Government, and why attention is needed from the FE service. There is a danger that the emphasis in ABR could fall heavily on narrow definitions of efficiency and cost-effectiveness. ABR could, however, be much more than a new funding régime or form of efficiency drive. It could relate to national and local purposes and vision for the FE service expressed through improving and enriching students' achievements. This chapter argues this case, and makes the assumption that it is appropriate for the FE service to be fully involved in designing ABR mechanisms, rather than have them imposed from outside.

WHAT PURPOSES ARE SERVED BY ABR?

Why adopt ABR? There is a view which suggests that the present student-number related régime, which will almost certainly be used by the funding councils at least initially, already allows management discretion to improve and develop the FE service. Why, then, change to something untried that carries evident risks? This may be a reasonable view, but there is evidence that in colleges, as in all organisations, the way in which money is allocated, used and accounted for, drives the nature of the organisation. Many practitioners suggest that flexibility (for example in learning mode, assumptions about acceptable group sizes, provision of prior learning assessment etc.) is inhibited by current funding arrangements. It is true that some colleges have honourably swum against the tide, but flexibility is not yet sufficiently widespread in FE. Most observers would acknowledge there is much to be done, and that current funding mechanisms are frequently cited as inhibiting factors.

ABR could be a method of freeing up colleges to become more flexible. The primary purpose of ABR is to provide a funding régime which removes the blockages on flexibility and accessibility, and to provide a focus on learner

achievement. It does this by encouraging, supporting and rewarding those institutions who are prepared to take the risk of increasing flexibility, accessibility and associated supportive services to learners. In this way, it contributes to increasing the overall quality of a college's offer, and especially to improving individuals' achievements. These purposes are addressed through ABR in two main ways:

— by enabling colleges to apply resources directly to the services (e.g. multi-mode and resource-based learning, assessment and tutoring) actually required by their customers (this latter term recognises that students are not the totality of those who might benefit from a college);

— by linking money not just with the business of making provision, but with individuals' achievements as the key indicator of the effectiveness of the learning process.

Colleges working on ABR can begin to review and report what they are achieving not simply in terms of numbers, but in terms of actual achievement. This itself reflects back on the way in which resource usage is accounted for in the college. In effect, the various proxy indicators of effectiveness, such as student:staff ratios (SSRs), could be replaced by unit costs, i.e. statements of the costs of producing actual achievements per student, whether whole NVQs, NVQ units or other achievement units. Once the rigidities of using internal management descriptors, such as SSRs, are removed, decisions can more easily be made about resourcing learner services such as assessment and resource-based learning. This leads naturally to new ways of planning and reporting resource usage such as establishing case loads for staff providing services.

One way of describing this shift is as an increasing investment in improving the quality of what the college does. Quality in this sense refers to:

— the accessibility of learning to all who wish to participate;

— the validity of the offer in terms of its relevance to customers' needs and wishes;

— the extent to which customers' purposes are actually met, i.e. achievements are gained.

At root, ABR can both stimulate and support colleges in investing in the systematic changes needed to improve quality. Money can be directly related to quality, rather than relying on the more indirect relationship it currently has.

It is perhaps worth exploring this relationship to quality further since it is so central to why ABR might be welcomed by colleges and funding bodies alike. ABR effectively supports the things about college operations which produce quality. By contrast, quality at the moment is supposed to influence funding decisions, which are actually based on student numbers. LEAs, for example, have been responsible for making judgements about the quality of the colleges they maintain, but this affects funding only if quality is so good as to merit more resources, or so poor as to cause withdrawal of resources. This is a rather crude relationship.

In practice, discussions about year-on-year resources tend to focus on target student numbers, while quality is addressed through tables of examination results presented, often at a different time of year, to governors or the LEA. Issues such as customer care, accessibility and validity of programmes, may have no formal relationship to quality judgements at all. The result is that colleges experience discussions about funding as largely about numbers and programme areas, irrespective of what each student will achieve. Internal resource management often proceeds on the same lines with faculties and departments receiving money against target FTEs. The concept of ABR turns this upside down and seeks to relate resources to students' achievements.

WIDER PURPOSES OF ABR

ABR is attractive to those who control the public purse strings because it can be used to stimulate the growth of a training market. Currently, colleges do operate within a market and compete for students and for the resources which go with them. The present market, however, is constrained in various ways, with a genuine market operating only at the margins, e.g. for PICKUP and full-cost recovery courses. The largest part of college income is an allocation from the LEA which varies more with financial pressures on the authority than with changes either in real levels of demand or in college outputs. The funding councils too have been based on an allocation system, although linked with both numbers and quality to some extent.

Efforts are being made to develop a genuine training market by switching purchasing power from LEAs (or funding councils) to employers and individuals. ABR will not only raise the issue of each college's actual student achievements, but will enable both employers and individuals to have a clear perception of the link between the money they are spending and the 'return' or outcome in achievement terms. The move from an 'allocation' system to the purchase of services by corporate clients and individuals itself brings resources and achievements closer.

The Government's efforts to create a training market involve:

— increasing the purchasing power of the TECs who are themselves resourced by output-related funding (ORF) and will wish to pass this on to training providers;

— progressing existing Training Credits pilots to a nationwide scheme through which all employment-based part-time training will be paid for by individuals' vouchers;

— requiring the new funding councils to have close regard to quality issues such as student achievements in making resources available.

In all three cases, ABR would be the logical link between resources and measurable outcomes of learning for participants.

Creation of the training market is also closely related to influencing the efficiency of colleges. By linking resources to achievements in the funding methodology of external funding bodies, colleges are encouraged to adopt the same process internally. The college's interest lies in addressing efficiency by ensuring that outcomes, i.e. achievements, are produced for the lowest reasonable level of inputs, i.e. staff time, materials, overheads. There is nothing harmful in this pressure, provided:

— achievements are defined widely enough to include individual gains which may fall outside recognition through a qualification; and

— resources are based on the 'value added' required to enable the individual to secure the achievement concerned, not simply on an assumption that all learners have identical requirements.

ABR AND COLLEGE CULTURE

Beyond this, ABR can also be used to stimulate efficiency by requiring colleges to take into account the particular learning needs of individuals. At a general level the course as it currently exists contains inherent inefficiencies. However carefully selected, some participants will find that their course covers things they already know and can do; others will find they cannot benefit fully because their particular learning need, e.g. in language, numeracy, or simply tutoring, is unable to be met. The first group require assessment of their prior learning (APL) which may shorten their learning time for a qualification. This could have the added benefit of freeing resources which may then be devoted to new learning. The second group require access to learning support services so that they can make full use of their particular main course or programme and so be more likely to achieve their desired qualification.

ABR raises the whole issue of how learners' needs are met, the services which are available to them, and the conscientiousness of the guidance they are offered. It stimulates, and might eventually require, colleges to analyse carefully each individual's needs and ensure the services are in place to meet them. Anything less could lead to inefficient use of precious resources. In effect, ABR changes the definition of optimum efficiency from unit cost per student to 'most cost-effective means to ensure each individual achieves his/her intended qualification outcome'. In this way ABR supports flexibility and learner-centredness and removes the constraints which current funding arrangements place on college development.

ABR, it is evident, encourages colleges to become the kind of institutions most want them to be, i.e. open, flexible and customer-oriented, rather than relatively inflexible purveyors of courses. It is worth characterising this cultural shift more fully in relation to funding mechanisms. One can still find in colleges many examples of assumptions based on a culture of inflexibility, including the following:

— most learning has to take place in the context of a group of students with a teacher, so marginalising the various possibilities of independent and flexible learning;

— assessment (and subsequent accreditation) can only be offered as a part of a course, e.g. in terms of assignment and projects meshed with a particular pattern of attendance, rather than as a free-standing service available at any time;

— efficiency can only be measured through proxy indicators such as SSRs, which require groups of certain sizes and largely preclude one-to-one tutoring as too costly.

The college whose culture is based on the centrality of individuals' achievements, and which is progressively adopting ABR, exhibits different assumptions. For example:

— people must be able to access and use the college's services to secure their desired achievements in ways, and at times and places which suit them;

— opportunities for both learning and assessment are college services which can be provided in many flexible ways, and money spent on support such as tutoring and guidance will assist in maximising achievement from flexible learning;

— efficiency concerns relating money spent not to proxy indicators based on students numbers, but the value added provided to learners in securing their achievements, i.e. a 'unit cost per achievement' approach.

The recent FEU publication **Flexible colleges (parts 1 and 2)** (FEU 1991) addresses these issues clearly and in more detail.

INTRODUCING ABR: THE COLLEGE CONTEXT

In the practical domain, it is little exaggeration to say that if a college is to put achievement at the heart of its operation, its whole internal process must be different from that which relates to a student number ethos. ABR both requires and facilitates change, by freeing up inflexibilities in resource management. This is explored below.

Perhaps the starting point for refocusing on achievement including using ABR, is to re-examine the basic contract (not used in the full legal sense) between college and learner. Although there has been considerable growth in flexible arrangements, open learning, etc., most potential students (especially in the 16-19 group) experience a college in terms of its course portfolio. Courses are packages of learning opportunities, assessments, tutoring, etc. with an intended

end outcome, usually a qualification. Effort is made to put the student on the right course, and there follow certain, usually unstated, assumptions about what is expected of learners and teachers in their respective roles. As far as it goes this is a perfectly reasonable contract between learner and college. At its heart is an agreement to provide a set of learning and related opportunities, usually without further commitment from the provider about what the outcome will be. This could be changed to a 'contract' which started not with the course but with the learner's desired achievement, and spelt out what both parties would guarantee in terms of reaching it.

From the college perspective, guaranteeing an outcome, or at least arriving as close as possible to guarantee, will require a commitment to resource the kinds of services learners are likely to need. These would include:

— honest information and guidance about appropriate mode and level of learning for each learner;

— diagnostic assessment, including APL, to both expose support needs and offer credit for what has already been learned;

— a range of accessible learner support services, including in language and other key areas;

— reasonable open access to credit assessment and progress monitoring;

— a full range of learning technologies to enable individuals' different learning styles to be exploited, e.g. computer-based, small group, one-to-one tutoring;

— customer-care facilities including ancillary services, learning resources, library and advisory services.

Working this way, the college can be confident that almost all learners will undertake the right kind and level of study; that the facilities can be marshalled which will enable all learners to add the value they require to secure their desired achievement; that learning will take place and the outcome be reached. Clearly, this assumes that the learner too will meet the contract, and some colleges may wish to use a learning agreement by which both sides specify what they will do. In ABR terms however, it will already be possible (and it is already happening within the Training Credits pilots) to enable the learner to pay for the college

facilities they use to lead their achievement. This may in time prove a stronger discipline than a learning agreement because a student who pays, but does not secure the concomitant achievement, will have wasted his/her money. There would be little point in not striving to achieve and therefore doing the things required on the learner's side of the contract. It will, of course, be a lengthy process to make the cultural shift required to the educated consumer which this presupposes.

The fully achievement-based college reduces a major aspect of the risk, and therefore threat, which some college managers will see in ABR. Although the college may be receiving some (or eventually all) its resources on the basis of successful (i.e. achieving) students, the internal facilities described above make it a more controlled, and therefore more certain, process of securing achievements. Unrealistic and inappropriate goals and learning opportunities are removed; each learner is always working towards a realistic goal, fully supported by appropriate learning and support services. Eventually such a college may learn to make such accurate judgements about the amount of the value added each learner is likely to require, that it could even offer a money-back guarantee of achievement. This is not as fanciful as it sounds: like all purveyors of goods and services who offer this, it would be based on a shrewd judgement that there would be very few takers.

For the moment, while there will be achievement-based agreements between colleges and individuals, e.g. training credit holders, the major agreement or contract will be with the new funding councils. It is quite possible to envisage within the next few years, that colleges could operate on some form of ABR from these councils. In effect, colleges would receive funds for delivering certain volumes of achievement, having first made judgements about the total value added for a given year they will need to provide. This points to the widest aspect of the college context for ABR: that of institutional mission and strategy. In essence, only a college which is clear about **what** it wishes to achieve, for **which** groups of people, can expect to make sound judgements about the resource base it requires. This is why achievement-based colleges (like Wirral Metropolitan College) are characterised by a clear, firmly held sense of mission.

THE 'TECHNOLOGY' OF ABR

From an analysis of the achievement-based services which will need to be in place it is possible to derive the management technology which will embed and

support them. Tnis might be called the technology of ABR, because without it the underlying principles will not be realised. Thi$ technology will include:

- admissions, guidance and information systems which enable individuals' needs and styles to be realistically identified;
- separate services, accessible as such, for group and independent learning and for assessment;
- a learning framework, based on NVQs and associated qualifications, which enables unit-based and recurrent modes of progress to a qualification;
- learning support services readily accessible;
- an institutional management process based on clear strategic thinking and systematic quality improvement;
- supportive staff development and training;
- performance review based on accounting for money in relation to achievement secured;
- an integrated management information system which supports monitoring and review as an achievement-based activity, i.e. which records individuals' achievements as well as student numbers.

PREPARING FOR ABR IN A COLLEGE

It will be evident from the description given so far of the purposes and context of ABR that only a college which sees itself as achievement-based can expect to derive the possible benefits. Once this cultural direction has been taken, the problems remain of the practical issues in the college. The writer's own experience involves close involvement with work in Croydon College and LEA as Joint Director of the FEU-supported Achievement-Led Resourcing Project. (A bulletin and report on this work is available from FEU – **Resourcing tomorrow's college,** Field 1992.)

This work took place in the context of attempting to develop an ABR methodology which explicitly improved on the more crude 'payment for each NVQ gained'

model which some TECs are using. It wished to emphasise the process which learners go through en route to a qualification, involving as it does information, guidance, learning, assessment and accreditation. It recognised that the relationship between achievement and resources involves the notion of value added, and that each learner will require different levels of resource. The underlying model of efficiency is one in which optimum resources are provided for each learner in relation to achievement, not a standard resource level for a standard outcome.

Determining costs

Once this was agreed, the project worked on spelling out actual costing for current provision. The question was addressed: what inputs are now currently used, and at what actual costs, to produce the current outcomes, i.e. students' achievements?

Unfortunately it is extremely difficult to calculate the **actual** costs of producing achievements, because it depends on both which costs are included, and how they are apportioned between different achievements and different achievers. Although the resource formulae introduced under the 1988 Education Reform Act generally identify a unit of resource for each FTE student, there are many costs which fall outside this process. Obvious examples are capital costs for buildings and equipment, and the costs of the various non-LEA funded provision such as Youth Training, Employment Training and employer-based programmes. Indeed, it is more accurate to think of a college receiving funds from a variety of sources which managers amalgamate and use to pay staff, running expenses, capital costs, etc. There is no clear relationship between income and work done, let alone with achievements produced, by which costs may be calculated precisely.

The search for a more flexible and pragmatic way to relate resources provided to students' achievements, which to some degree took into account actual costs, led the Croydon project to re-evaluate the problem. Broadly, the data that all colleges have to work with lies in two areas: current resources; and current levels of student achievement. Even here there are difficulties because resources are spread internally around different faculties and departments, and around different services (e.g. learning, tutoring, guidance, library, etc.). However, it is possible to produce a picture, purely empirically, of the levels and extent of students' achievements in relation to a given total amount of money. This could be a starting point for a workable model of achievements related to resources.

Using the work already done firstly on defining achievement, and secondly, on actual costing, it is possible to build a picture of the current relationship between achievements and resources for any college. There are several ways of doing this depending on such factors as whether capital costs are included, or income taken into account. At its most crude, simply adding a college's total revenue from all sources, to an estimate of the real capital costs, will produce a statement of resource consumption for a particular year; similarly, all the qualifications actually achieved (using these as a proxy for the full range of achievements) can be aggregated and deemed to be a product of a given level of resource consumption. This process can then be broken down to faculty/department/section level; by TOC (Training Occupational Classification) area (or some similar classification); and to constituent units of qualifications. In effect, a simple statement that faculty x consumed y resources and produced a certain number of NVQ units per relevant TOC area, may be derived.

In simple terms, this produces a cost for each unit. This done, a starting point has been marked for future resource provision. If, for example, a department were asked to provide for an additional 10 students and enable them to achieve 12 units each, the resources could simply be offered for the unit costs of 120 additional units. The head of department however would wish to consider a whole range of additional factors in agreeing a price per unit. For example:

— if the costs will only be paid for successfully achieved units, an estimate will need to be made of the success rate likely for the additional units; if 85 per cent is expected, the costs of the other 15 per cent could be added on to the 85 per cent;

— if additional input costs are expected to enable some or all of the additional students to achieve, because of low initial attainment, these too must be loaded on to the unit costs.

Beyond this, there could be a variety of reasons related to the market to raise or lower the costs, and therefore price to the purchaser of the units. A faculty could decide to accept resources below cost in order to gain, or maintain, a particular area of work. Resources above cost could be demanded where the college has a monopoly of a particular kind of provision.

However, this philosophy alone raises a major objection to output-related funding: simply, an institution whose funds are dependent on a certain level of student achievement could be placed in the position that its best option would be

to enrol only those students considered almost certain to achieve. This is clearly unacceptable because many of those with the greatest educational needs would be excluded.

There are two main ways to avoid this major pitfall although neither can ensure that some institutions will not take the easier route of simply moving up-market in terms of students enrolled. Firstly, at the level of policy, an institution could decide to operate open and flexible admission arrangements linked to a wide identification of client group. Operationally this would need to be supported by ensuring that as far as possible leavers were enrolled on programmes which did lead to successful achievement, because the intended achievement was carefully related to their needs and capabilities. In effect, the ladder of opportunity in the college would have a series of achievements appropriate to different types and levels of student n[illegible] Generally this would in any case be considered good practice, since it is not effective for student or college to enrol applicants on courses or programmes leading to achievements which they have little or no chance of gaining.

Secondly, a college could approach the issue from the concept of value added. Each student is seen as a fully capable achiever, but with different initial attainment points, requiring different amounts of value to be added to enable achievement. By devising a spectrum of value added by reference to the spectrum of initial attainments in each course or programme, a median cost per successful achievement may be derived. This in effect requires each individual to be treated separately in terms of the learning programme, which is then separately costed. Costs could then be aggregated perhaps in the form of broad bands representing different amounts of value added. This would require the external funding body to accept a banded approach to resourcing, for which there are precedents. For example, most existing schemes of delegation allow an additional weighting for special needs, which recognises that students in this category consume more resources than others. By specifying costs, i.e. charges for achievement, in bands which are recognised by the funding body, the resources will be available to supply the additional value added to those who require it. There would therefore be no incentive to exclude them. This raises the question of what counts as achievement?

WHAT ARE ACHIEVEMENTS?

The mainstream achievements in a college are encapsulated in the national

system of qualifications. This simple statement subsumes a wide range of differences in practice, not least between vocational and academic qualifications. In each of these categories there are many more differences; indeed part of the purpose for establishing NVQs was to create a unified structure of reasonably comparable qualifications. The advantage of NVQs is that they all have a standard format based on units, each of which is based on a statement of competence, rather than a syllabus of some kind. In any system of defining units of achievement for resourcing purposes, the NVQ framework is likely to be of central importance.

It is clear, however, that there are formal qualifications outside the NVQ framework. NVQ units are not of consistent size, and in any case, qualifications do not express the totality of an individual's achievement within a college. The first issue may be addressed by treating all formal qualifications as a series of units, for example by taking each assessment provided during a course or learning programme as the end of a preceding unit. Alternatively, there are modular and unit-based academic qualifications such as modular GCE A levels. The second issue involves finding ways to express the additional skills and maturity that the very process of learning itself engenders. Some of this will be expressed through the core skills units currently under design by NCVQ, in association with FEU, SEAC (School Examination and Assessment Council), and NCC (National Curriculum Council).

At the moment, it is not possible to express all achievement in a public and verifiable form, and work will need to continue on this. There is no reason, however, why the achievements used in resourcing terms should not be less than the totality of possible individual achievements. The vast majority of students in a college are taking a recognised qualification and whatever the additional learning involved, it is gaining the primary qualification which will be perceived as being of most value by them. A system of banding for similar units could be used to generate a cost, rather than expecting all units to cost the same.

RELATING RESOURCES TO ACHIEVEMENTS

In designing any process to relate resources to outputs, it is important to distinguish:

— where a college receives resources related to planned student achievements, rather than FTE numbers, irrespective of whether the achievements are actually delivered; or

— where a college receives resources only for student achievements actually delivered, either in arrears against, for example, monthly targets, or in the form of steady-state increase or decrease in the following year's budget.

For the moment, developments are likely to be of the first kind. In effect, a resource process based on FTE numbers can be translated into output-led resourcing simply by turning FTEs into a certain number of student achievements using a formula to define the relationship between numbers and achievements. This has led to a good deal of work to define achievements and develop a standard unit of achievement for resourcing purposes. For example, by reference to the NVQ framework, it could be assumed that a college will deliver for its students a certain number of units of achievement at each level and within each area of the college's work. Resources may then be applied according to a tariff for each band and level of unit giving a total budget for a total number of units. This would parallel the existing budget based on a total number of FTEs.

This relatively simple paralleling can operate throughout the budget cycle, with colleges recording units of achievement gained over the budget year, and judgements being made for the following year's achievement – just as the college budget process now operates. This is certainly a way to start, but it throws up a variety of issues which need to be addressed before output-related funding could become a universal model. The shift from relating resources to numbers of students and an expected duration of learning, to relating them to individuals' achievements is profound and will raise questions about the nature of achievement explored earlier.

The Croydon work has entered a new phase which includes trialling the actual application of one model of ABR within one faculty of the college on a 'dry-run' basis. The key features of this model are:

— a certain baseline funding is maintained to support the institution, with additional resources being related to achievements secured;

— additional achievement-based money paid to the college is kept separately and allocated to faculties/sections in relation to the achievement of target rates of student success, agreed beforehand.

The purpose of this is to treat achievement as a corporate issue, and to enable internal management decisions to be taken about increases or losses in income.

This internal regulator function is considered important, particularly in the transition phase to ABR. It enables, for example, a section that had not met its agreed achievement target and had therefore lost resources, to be topped up. Conversely, a section that had exceeded its target and earned more resources could receive some, but not all of the extra (to allow for a degree of redistribution). The underlying issue is that non-achievement of targets is an indicator that some part of the process by which learners acquire achievements is not working well. A section could be required, for example, to improve the initial guidance/induction process, if it appeared that non-achievement was due to learners undertaking unrealistic learning programmes. Failure to do so would inevitably lead to the work of the section concerned contracting. If such an outcome were unacceptable to the college as a whole, then remedial steps could be taken. This work will be reported as part of a wider FEU project on achievement-led resourcing which involves five other colleges (RP 653 Phase 2 of Achievement-led resourcing project – unpublished).

THE FUTURE

There is no doubt that the move throughout the public sector to regulate service quality through a market and consequent relation of finances to outputs, will grow. ABR is now on the verge of becoming an important topic for colleges, but it is important that it is seen in context of changes in the very nature of the college itself. Some of the lines of development include the following:

— colleges will need to price all their services and start marketing them on a fully commercial basis – not just to employers and other full-cost payers, but to individuals who may be training credit holders;

— the notion of a learning agreement or contract of some kind with learners will gather weight;

— individuals will increasingly have more control over their learning through the money that they will be able to provide, whether through a training credit or some wider notion of a training account;

— employers, the new funding councils, and all bodies who are effectively purchasing education and training will increasingly insist on a business-like relationship with colleges involving clear delivery contracts and pricing;

— the notion of a competitive training market will grow, with the very real possibility that some colleges could lose financially and be forced to merge with others in a general rationalisation of the service.

All these factors will have unpredictable results in terms of the nature and quality of learning and achievement. This chapter argues the optimistic case that ABR and associated developments will lead to more and better achievement, and more satisfied clients. What is clear is that it is the managers within the FE service who will need to make this happen.

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Chapter 3

A credit-based resource model for further education

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INTRODUCTION

The **Further and Higher Education Act** of 1992 and the consequent changes in the funding of further education (FE) provide a clear opportunity to review current methods of resourcing FE and to introduce radical change in future funding mechanisms. The direction of these changes is clearly signalled in the Act itself, and in the White Paper (**Education and training for the 21st century**, DES *et al* 1991) which preceded it. The new FE funding councils have explicitly expressed their intention to introduce these changes in due course.

The key conceptual change in funding mechanisms is signalled in the title of this Coombe Lodge Report. The intention of the new arrangements is that the FE sector should be resourced in a way that bears some relationship to the achievement of learners in colleges. This is by no means a new idea. Indeed, many FE colleges have for some time been examining how the concept of resourcing achievement might be applied to their own provision. These experiences in the field will no doubt influence the way in which the funding councils undertake the development of a resource mechanism for FE colleges.

The concept of resourcing achievement actually creates a much clearer connection between funding and the curriculum than models based simply on student numbers. Indeed, we should recall that the White Paper (DES *et al* 1991) which first proposed the establishment of FE funding councils also had quite a lot to say

about the future of the FE curriculum. The particular resource model proposed here attempts to build upon this explicit connection. In this respect, it bases itself on a familiar principle – that a resource model should support, and not dictate, the form of the FE curriculum.

At this stage we should note the characteristics of the FE curriculum envisaged in John Major's introduction to the aforementioned White Paper:

> We want to knock down barriers to opportunity. We want higher standards. We want more choice.
> **Education and training for the 21st century.** DES *et al* 1991

I would argue that there is a high degree of consensus within FE colleges about the need to develop a curriculum based on these principles in the new FE sector. It therefore follows that, if a resource model is to support these desirable changes in the curriculum, it too should display these characteristics.

The model proposed here attempts to do just this. It accepts the basic premise that resources should be linked in some way to learner achievement, but also applies John Major's three principles to the basic funding mechanism in order to ensure that it serves the needs of the future FE curriculum rather than determines them. These three principles of widening access, improving quality and increasing flexibility are all familiar themes to those of us involved in the development of the post-16 curriculum. How might this experience be used to develop a genuinely curriculum-led resource model for the new FE sector?

THE NEW FE SECTOR

The current resource model for FE is focused around two uniform concepts:

- the full-time student; and
- the unit of resource.

Although conceptually consistent these are far from immutable in practice. The unit of resource varies quite considerably from college to college, while different LEA schemes of delegation offer different implied definitions of what constitutes a full-time student; and indeed what is equivalent to this student for those learners attending college in other than full-time mode. The model functions though, on the basis of a broadly shared concept of the full-time equivalent (FTE) student

and an acceptance that the unit of resource per FTE student will vary according to the differing needs and circumstances of individual colleges.

The FTE student, therefore, represents a notionally uniform and consistent unit to which a unit of resource can be matched. The problem for the new FE sector is that the FTE student is a unit which makes no reference to achievement. The critical task for the new funding councils in achieving their declared objectives can, therefore, be represented in simple terms:

— How can a uniformly consistent representation of achievement be developed that can be substituted for the FTE student in order that it can be matched to a unit of resource?

This is the critical equation which the model proposed here attempts to resolve.

The Funding Council's task is made considerably more difficult by the scope of its funding remit. The council will be attempting to develop measures of learner achievement susceptible to resourcing at the very moment when the scope of learner achievement is being broadened through the definition of what will or will not fall within the bounds of 'a further education course' as set out in Schedule 2 of the new Act.

In developing any resource model based on achievement, we need to take account of the considerable differences between the pre- and post-incorporation sector. For example:

— from September 1993 most A level students will be studying in the FE sector;

— adults on part-time courses will constitute a majority of learners in the sector;

— the percentage of learners in the sector on vocational courses will be dramatically reduced.

If the new sector is to be funded in relation to achievement, then the unit of achievement to be related to the unit of resource must take account of the range of different achievements of learners within the new sector.

THE CREDIT

In February 1992, the Further Education Unit (FEU) published a discussion paper entitled **A basis for credit?** (FEU 1992). This document sets out proposals for a framework of credits at different levels that will enable the development of a comprehensive system of credit accumulation and transfer across the FE sector, encompassing all post-16 qualifications and learning programmes. The FEU document has emerged from a small group of practitioners involved in work in FE colleges, schools, adult and higher education. Although much work remains to be done on the development of the framework, the scope of the FEU's paper and its focus on the credit as a potentially comprehensive measure of learner achievement make the proposals in **A basis for credit?** (FEU 1992) extremely relevant to the new FE funding councils.

The FEU document offers the following specification of credit:

> Credits are the currency of the system. A credit is a medium of exchange. It is used to value units of outcomes which may vary in size and complexity. Credits are awarded on the successful achievement of a set of clearly defined outcomes combined into a unit.

The value of the credit is calculated:

> by agreeing the notional amount of time required, on average, for a learner to achieve the defined outcomes of a unit and dividing it by a given number.

The 'given number' used in **A basis for credit?** (FEU 1992) is 30. The formula for calculating credit value can thus be represented as:

$$\frac{\text{notional learning time}}{30} = \text{number of credits}$$

It should be emphasised here that credits are awarded for achievement, **not** for 'time-serving' of 30 hours. Notional time is a device for ascribing credit value to learning outcomes. Once this credit value is established then a learner will be awarded credit for the achievement of these outcomes, irrespective of the amount of time he or she actually takes to achieve them. **The credit, therefore, combines a concept of achievement (outcomes) with a concept of measurement (notional time) that enables it to be applied to all qualifications and learning programmes in the FE sector.**

A basis for credit? (FEU 1992) focuses attention on the FE curriculum. The qualities of the credit are employed to set out a framework within which learners' various achievements within this curriculum can be represented, recognised, accumulated and transferred. The credit can support these functions because it is:

- comprehensive in scope;
- flexible in application; and
- simple to understand.

The resource model proposed here takes these qualities of the credit, developed within the framework of the FE curriculum, and seeks to demonstrate how they can be applied to a model of resourcing for the new FE sector.

Before setting out the model we should also note that the definition of credit value in the FEU document, precisely because it employs a unit of measurement based on time, will enable a connection to be made with the current unit of measurement for funding FE – the full-time equivalent student. Basing a resource model on the FEU's definition of credit therefore, not only provides us with a future unit of measurement based on achievement; it also provides us with the opportunity to develop transitional mechanisms from current to future resource models utilising the linked concepts of time used in both the FTE student and the credit.

At this point it should also be noted that the model begins from the assumption that the comprehensive credit framework proposed in the FEU document is actually in place in FE colleges. Clearly, this is not the case, but this pre-condition need not deflect us from serious consideration of a resource model based on the credit. For example:

- although the credit framework will underpin a more flexible, more accessible and higher quality FE curriculum, the process of credit-rating in itself need not be a complex and time-consuming activity;

- the ability of the credit to support a transition from the current FTE-based to a future achievement-based resource model means that the credit framework could be developed gradually across the FE sector and within individual FE colleges;

— notwithstanding the fact that the resource model is curriculum-led, what greater impetus could there be to the development of the FEU's proposals in **A basis for credit?** (FEU 1992) than a clear signal from the FE Funding Council of its intention to move to a funding mechanism for FE colleges based on the credit?

THE MODEL

Stage one: translating FTEs into credits

The first step for a college in setting a budget based on credits rather than FTE students, is to apply a simple conversion of FTEs into 'raw credits', using the FEU's formula to develop a 'real-time' equivalent between a college's FTE student numbers and target learner achievement in any one year.

In order to do this, a uniform definition of the FTE student has to be established in the 'real' time of class contact hours. Clearly, this definition of the FTE student would need to be set by the FE Funding Council. Here a figure of 22.5 hours per week over a 32 week college year is used to illustrate the process (**Figure 5**).

Figure 5: Translating FTEs into raw credits

$$\frac{\text{22.5 hrs per week x 32 weeks}}{\text{30 hrs notional learning time}} = 24$$

The model therefore assumes that each FTE student will have a 'raw' achievement target of 24 credits in any one year.

Stage two: establishing a unit of resource

The FE Funding Council has signalled its intention to begin the transition towards new funding arrangements for the sector by accepting, in the first instance, existing arrangements for funding colleges through LEA schemes of delegation. The calculation of a unit of resource per credit can therefore be

calculated by dividing the existing unit of resource per FTE student by 24. Let us assume that the college in our example has an existing unit of resource of £1,920 (**Figure 6**).

Figure 6: Calculating the unit of resource per credit

$$\frac{\text{£1,920 per FTE student}}{\text{24 credits}} = \text{£80.00}$$

The unit of resource is therefore fixed in this instance at £80.00 per credit achieved. Once again, we need to emphasise that these are raw figures – the model requires some further elaboration before real figures can be derived.

Stage three: weighting credit targets

To date, the model has employed no weighting of credit targets, along the line of FTE weightings employed in LEA schemes of delegation. The rationale behind these weightings is accepted, and the model assumes that funding councils will develop such weightings perhaps (though not necessarily) with regional variations developed through the councils' Regional Advisory Committees. For the purposes of this example, assumptions are made about the scope of work in a particular college, and about the weightings applied to each area of the college's work through the LEA's scheme of delegation. **Figure 7** illustrates these assumptions.

Figure 7: Weightings per programme area in one college

Programme area	Weighting
Administrative, business and management studies	1.1
Art and design	1.4
Health and community studies	1.1
Hairdressing and beauty therapy	1.2
Mechanical and production engineering	1.5
Motor vehicle repair and maintenance	1.4
General education	1.0
Special needs	2.0

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By multiplying the unit of resource per credit by these weightings a weighted unit of resource can be derived for each of these areas of work (**Figure 8**).

Figure 8: Deriving a weighted unit of resource in one college

Programme area	Weighting		Unit of resource		Weighted unit of resource
Administrative, business and management studies	1.1	x	£80	=	£88
Art and design	1.4	x	£80	=	£112
Health and community studies	1.1	x	£80	=	£88
Hairdressing and beauty therapy	1.2	x	£80	=	£96
Mechanical and production engineering	1.5	x	£80	=	£120
Motor vehicle repair and maintenance	1.4	x	£80	=	£112
General education	1.0	x	£80	=	£80
Special needs	2.0	x	£80	=	£160

Stage four: calculating the college's overall budget

The next stage of the model also mirrors a stage in the development of a college's budget through an LEA scheme of delegation. Currently, the weighted FTEs are multiplied by the unit of resource to determine the college's base budget. In this model, the weighted unit of resource is multiplied by the credit target for each programme area. In the example used, overall FTEs for the college are assumed to be 2500. A credit target for the whole college, distributed among the various programme areas, can therefore be derived by multiplying the college's FTE student numbers by the credit target per FTE (**Figure 9**).

Figure 9: Calculating the overall credit target for the college

2500 FTEs x 24 credits per FTE = 60,000 credits

In order to calculate the overall college budget, it is now necessary to multiply the credit target for each programme area by the weighted unit of resource for that area (**Figure 10**).

Figure 10: Calculating the overall college budget

Programme area	Raw credit target	Unit of resource	Total (£)
Administrative, business and management studies	8,000	88	704,000
Art and design	5,000	112	560,000
Health and community studies	10,000	88	880,000
Hairdressing and beauty therapy	4,000	96	384,000
Mechanical and production engineering	8,000	120	960,000
Motor vehicle maintenance and repair	5,000	112	560,000
General education	16,000	80	1,280,000
Special needs	4,000	160	640,000
Totals	60,000		5,968,000

At this stage, it should be noted that the college's overall budget, derived in this way, is identical to the budget that would be set through current schemes of delegation. Rather than see this as a pointless paper exercise, we should instead pause to remind ourselves of the important transitional value of the credit-based model. If the new funding councils are looking for ways of shifting college budgets towards an achievement-led model over time, but are committed to working on historically derived budgets in the first instance, then perhaps it will be necessary to begin the process of change through precisely this kind of paper exercise.

DEVELOPING THE MODEL

At this stage, the model has two major flaws:

1) the 'raw' credit targets are based on real time (i.e. class contact hours) rather than notional time (i.e. the time spent on learning); and

2) there is an assumption built into the model that all learners are completely successful in reaching their credit targets.

A solution to both these flaws must be built into the model. Without further development the model will remain simply a method of resourcing time-serving, unrelated to achievement.

The critical point of development in the model is to break the direct link between time-serving and achievement. If this can be done, then colleges will be able to develop all those alternative methods of providing learning opportunities (accreditation of prior learning – APL, work-based learning, open learning, etc.) that are currently so difficult to account for within existing funding régimes. In other words, a resource model based on achievement will have directly beneficial effects on the flexibility and accessibility of the FE curriculum.

It is at this point that the real significance of the FEU's definition of the credit becomes apparent. Because the credit is based on notional rather than real time, the credit itself is capable of freeing the measurement of achievement from time-serving by the learner. (We should also note that the notional time basis of the credit, frees the FE lecturer from the unbearable conceit that there is a direct link between what is taught and what is learned!)

Stage five: developing notional time weighting

Returning to our model then, we need to build in a mechanism which enables the raw credit targets (based on real time) to be converted into actual credits (based on notional time). The raw credits have actually been of value in enabling a college budget to be established, but they now need to be discarded if real achievement targets are to be set which are based on the FEU's definition of credit.

In order to develop this conversion from raw to real credit targets, the model employs the concept of 'level' as outlined in the 1991 White Paper (DES *et al* 1991). The new councils will have a responsibility for funding FE courses at four different levels. In addition to NVQ Levels I, II and III, and their 'academic' equivalents, the new FE sector will also assume a responsibility for the funding of adult basic education (ABE).

Both academic and vocational awarding bodies employ concepts of level to identify progression through their awards. Indeed, both NVQs and the National

Curriculum Key Stages make these levels quite explicit. In both cases, the key factor which determines the difference between achievement at different levels is the degree of autonomy exercised by the learner, either in the process of learning (for academic awards) or in competent performance (for vocational awards). In other words, the higher the level of the award, the greater the amount of learning that the student is expected to undertake that is not directly taught or supervised.

By applying this concept of increasing autonomy to the four levels of FE courses identified in Schedule 2 of the Further and Higher Education Act, we can develop a notional time weighting for each level that sets credit targets which broadly reflect the expectations for autonomous or self-directed learning at each of these levels. This weighting will therefore modify the credit targets at each level by taking account of the developmental nature of learning in the post-16 curriculum (**Figure 11**). Critically though, it is this notional time weighting which will enable the resource model to break the connection between time-serving and achievement that is essential to the kinds of development in the FE curriculum that both government and colleges wish to see.

Figure 11: Notional time weightings

Level 1 (ABE):	1.1
Level 2 (NVQ I, return-to-learn):	1.2
Level 3 (NVQ II, GCSE):	1.3
Level 4 (NVQ III, A level, access):	1.4

The effect of these weightings will be to increase overall credit targets, broadly reflecting the relationship between staff input and learner output at each level. So for example, there is an assumption that 10 hours of class contact time on a programme leading to achievement at NVQ Level II will generate 13 hours of notional learning time. Once again, it needs to be emphasised that notional time is a way of ascribing credit value to achievement, not of imposing a mechanistic or arbitrary requirement on learners to undergo a set time requirement for their learning, either in the classroom or outside it.

Stage six: establishing credit targets

The weightings for each level suggested above are for demonstration purposes only. The actual weightings for each level would need to be set and monitored

by the funding councils. These weightings would then be used in the calculation of actual credit targets for each college, depending on the number of weighted credits at each level that would be set as a target for each programme area. It should be noted here that each college would be able to develop its own programme area weightings for credit achievement within the targets set by the FE Funding Council. The example shown in **Figure 12** takes one programme area from the college used in previous examples and shows how a target for credit achievement would be set for that programme area using the notional time weightings suggested above.

Figure 12: Setting credit targets for each programme area

Health and Community Studies

	'Raw' credits	Weighting	Credit target
Level 1	1000	1.1	1100
Level 2	3000	1.2	3600
Level 3	4000	1.3	5200
Level 4	2000	1.4	2800
Totals	10,000		12,700

There will obviously be a need for colleges to classify learning programmes according to the level or levels of achievement they lead to. This need not be problematic – it should be remembered that some LEAs already require FE courses to be classified by level within schemes of delegation, and that colleges are required to identify levels of achievement within their provision in order to satisfy the output-related funding requirements of Training and Enterprise Councils (TECs).

An important point needs to be made here about aggregation. It will be for colleges to decide how they will respond to the credit targets established by the funding councils on the basis of the formula outlined above. If a funding council allocates a 'single line' budget to a college, then it is logical that a 'single line' credit target is established for that college, in much the same way that FTE student numbers are currently used to denote the size of a college. The quality assurance responsibilities of the funding councils will require them to investigate more comprehensively how any one college performs in relation to its credit

targets at each level in each programme area; but this level of precision is not built into the funding formula.

The logic of devolved responsibility for funding decisions suggests that each cost-centre (however constituted) within a college will be responsible for the achievement of its own credit targets. If the model is to function effectively in support of the curriculum, responsibility for decisions about how credit targets are to be achieved must be located at the same level within the college as the responsibilities for budget management. Credit achievement cannot, therefore, be used to set performance targets for individual members of staff. A level of aggregation of credit targets, to individual or grouped cost centres within a college structure, is essential if the flexibility of the model is to be realised.

This weighting by level shifts the model out of its real-time restrictions and into an arena consistent with the FEU's definition of credit. Notional time weightings are essential if the model is to shift from a time-serving to an achievement-led basis. The critical and stultifying connection between the measurement of achievement and class-contact hours has been broken. The model is now in 'achievement-led' mode and the first major flaw identified above has been overcome. In order to address the second major flaw in the model (the implied assumption that all learners are 100 per cent successful) we need to move out of the realm of formulae and into a consideration of how the resource model might actually be applied. Before doing so we might take one moment to reflect on the simplicity of the mathematics involved in the basic process of budget setting within the model – surely one of the acid tests of its potential use value.

IMPLEMENTING THE MODEL: MANAGING TRANSITION

The strong correlation with existing models of funding has been stressed above. Even with the addition of notional time weightings, the mathematics of the model are far from complex (though there are, inevitably, implications for colleges' management information systems). In considering the implementation of the model, and indeed in addressing its continuing flaws, it is probably most useful to consider a chronological process of developing the model on the basis of the ongoing relationship between the FE funding councils (and their Regional Advisory Committees) and the incorporated colleges of the new FE sector.

Let us assume that, from April 1993, the new funding councils simply assume responsibility for that portion of LEA funding of colleges which falls within the

definition of an FE course according to Schedule 2 of the Further and Higher Education Act. At the same time, the councils could signal to FE colleges their intention to move to a funding model based on credit achievements from (say) August 1994. This would give colleges time to establish some **initial estimates** of credit targets based on a process of credit-rating programmes at various levels. These would obviously need to be revised and reviewed annually as an integral part of the process of curriculum planning and budget setting within each college, but could provide a basis for the allocation of funding from 1994-95.

In the 1991 White Paper (DES *et al* 1991), two distinct elements of the FE funding councils' allocation to colleges were identified – the block grant and the student-related element. In other words, it was accepted that only a proportion of a college's budget would be **directly** related to learners' achievement. In the proposed model, a distinction needs to be drawn between credit targets and credit achievement. In the first year of operation of the model, the whole of a college's budget could be allocated on the basis of credit targets (i.e. through block grant) rather than by the actual credits achieved by learners (i.e. through the student-related funding element). This would give colleges an opportunity to test out the model for an initial year without risking part of their funding through miscalculating the relationship between planned credit targets and credit achievement in different programme areas.

This distinction between planned credit targets and actual credit achievement, and its reflection in the proposed funding mechanism, overcomes the second major flaw in the model. It allocates a certain percentage of a college's budget (100 per cent in the first instance) on the basis of planned credit targets, and therefore recognises that not all learners will successfully reach these targets, without penalising the college through this element of its allocation. Clearly though, the introduction of a resource model linked to achievement implies that, over a period of time, the proportion of a college's budget allocated on the basis of **planned credit targets** will fall as the percentage of the budget linked to **actual credit achievement** rises.

In managing this shift from a block grant paid on credit targets to student-related funding based on credit achievement, the funding councils have two options:

1) block grants would continue to be paid on credit targets which assumed a 100 per cent learner success rate. The student-related funding element could be paid on the basis of credits achieved, with the funding council establishing 'real' targets for credit achievement

based on a college's previous experience and the council's commitment to improve levels of achievement;

2) a second option would be to shift completely to the setting of credit targets based on the historical achievement of the college, and to simply divide the college's budget between planned credits and credits achieved on a percentage basis.

In both cases an adjustment to the unit of resource would need to be made, either for the whole budget (2) or for the student-related funding element of the budget (1). We should assume though, that over a fairly short period of time, colleges will become as adept at setting realistic credit targets for learner achievement as they currently are at setting FTE student enrolment targets. (We might also assume that, in whatever resource model the FE funding councils adopt, the calculating of the unit of resource and the proportion of budgets allocated on the basis of learner achievement, will be the principal areas of ongoing debate and dispute between FE colleges and the new councils.)

THE FUNCTIONS OF THE MODEL

Having established the basis of the model and illustrated how the transition from current funding mechanisms might be accomplished, we should now return to our initial premise and examine how a credit-based resource model might support the positive characteristics of the FE curriculum that were identified by the Prime Minister in his introduction to the White Paper (DES *et al* 1991).

Widening access

The resource model will act as a stimulus to a number of changes in the FE curriculum which will serve to widen access to colleges. For example:

— it will encourage colleges to modularise provision and to develop a wider variety of learning opportunities;

— it will create equal esteem between the various types of provision that fall within the remit of the funding councils through a consistent measurement of learner achievement via credits;

— it will enable colleges to develop alternative models of learning,

leading to credit achievement for groups of potential students for whom regular attendance at college is problematic;

— it will enable local variations in provision, targeted to meet the needs of particular groups of learners who the college wishes to encourage to take up learning opportunities, to be developed within a consistent national framework;

— it will provide a framework within which FE colleges can develop partnership arrangements with other centres or organisations.

Increasing flexibility

The resource model will also enable colleges to develop more flexible methods of curriculum delivery. For example:

— the modularisation and credit-rating of a range of qualifications and awards gives colleges much more freedom to develop individual programmes of learning. Progression targets could be set in terms of credit achievement at various levels, and individual learners could plan programmes of study that combine modules from different awards to meet these targets;

— college flexibility in planning provision will be increased, since credit targets can be set for part-time and short courses in exactly the same way as for full-time courses leading to qualifications. Part-time routes to achievement (an increasingly important part of the new FE sector) will receive equal esteem in resource terms through the credit-based model;

— because the model breaks the link between resourcing and time serving by learners, colleges will be able to resource the provision of work-based assessment and APL facilities in a rational and planned way;

— the model will also enable colleges to develop effective systems of guidance and advice to support these more flexible forms of delivery. Not only does the framework of credits and levels make the signposting of progression routes more transparent to learners; but the guidance function itself, because it is important to the successful achievement

of credit, will be seen as an integral component of the delivery system, designed to maximise credit achievement by learners.

Improving quality

The new Further and Higher Education Act clearly locates the primary responsibility for the quality of provision within FE colleges. The credit-based resource model will enable colleges to develop more effective ways of fulfilling these responsibilities. For example:

— the credit framework creates more opportunities for the sampling of learner achievement than a system based on qualifications. Colleges will therefore be encouraged to develop more 'on-line' quality checks by monitoring credit achievement on individual programmes of study. The resource model will encourage colleges to fine-tune allocations to cost centres within accounting periods to ensure that planned credit targets will be met;

— the more frequent measurement and recording of achievement permitted by the credit framework will increase both staying on and success rates. Indeed we may expect the framework to stimulate the development of more flexible and appropriate ways of measuring the different achievements of learners within the FE sector;

— the credit framework provides a way for all who have a responsibility for quality (awarding bodies, the funding councils and colleges) to develop a consistent quality system based on learner achievement and progression through the levels of the credit framework.

CONCLUSIONS AND ISSUES FOR DEVELOPMENT

A resource model based on credit achievement will clearly be meeting the requirements of accessibility, flexibility and quality demanded of the new FE sector. We should again note that the model is supportive of these changes, which are essentially curriculum-led. We should not expect it to lead these changes. Similarly, we should not expect the resource model in itself to deliver all those changes in FE colleges anticipated in the White Paper (DES *et al* 1991) and the Further and Higher Education Act. It is the interaction between the resource model, college management and the quality assurance responsibilities of the new

funding councils that will determine how effectively the credit framework stimulates the growth of a genuinely achievement-led FE sector.

There are many questions left unanswered by the basic model outlined in this chapter. This chapter is intended to argue the basic concept behind the model, rather than provide an instantly workable system. However, it seems appropriate to conclude with a series of questions that college managers and the new funding councils will need to address if the concept of credit-based resourcing is to be further developed.

— Although the model can be expected to increase learner achievement measured in credits, can the same assumption be made about the achievement of qualifications? Is the measurement of credit achievement sufficient in itself, or does some incentive need to be built into the model to encourage the achievement of whole qualifications?

— How can we ensure that the model will work over time to raise levels of achievement? Some incentive needs to be developed which will counteract the tendency of colleges to **underestimate** the planned achievements of learners in order to enable them to more easily reach their individual targets.

— How can the model counteract the temptation by colleges to use APL and work-based assessment as devices for building up credit achievements that are not part of any meaningful learning programme for students? The model needs to support real achievement by learners, not the mechanistic accumulation of credits in order to achieve college targets.

— How will the system reward colleges who achieve more than the planned credit targets? This is as much a political question as a financial one, but the model can be straightforwardly adapted to add (weighted?) units of resource to college budgets for the over-achievement of planned credit targets.

— There are major issues to address for college management information systems. (Yet more) resources will have to be identified to ensure that the recording of individual credit achievement takes place consistently across the sector, without restricting the flexibility of the credit

framework itself. Would the funding councils need to develop ways of verifying the recording of achievement on these systems?

— The need to devolve responsibility for quality assurance to college level has been mentioned above. It will also be necessary to develop independent systems of verifying achievement within the credit framework, for areas such as adult basic education, English as a second language, access to HE programmes and other currently non-accredited work that will fall within the definition of an FE course. Where Open College Networks (OCNs) exist, this independent verification can take place. How will colleges who are not members of OCNs verify these areas of achievement?

These, and other questions will need to be addressed and tested if the new funding councils are to develop a credit-based resource model. Indeed, many of them will need to be addressed if any resource model that links the funding of FE colleges to learner achievement is to be developed. The credit-based resource model offers a simple and easily comprehensible way of linking funding with achievement that will support a more accessible, more flexible and better quality FE curriculum across the new sector. It is this critical connection between the unit of resource and the unit of valuing learner achievement that recommends the credit-based model of resourcing to those who may wish to develop achievement-led systems for funding the new FE sector.

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Chapter 4

Resourcing tomorrow's college

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EXPECTATIONS OF THE FURTHER EDUCATION SYSTEM

Further education stands on the brink of a new era in which flexibility of response, open access, the provision of 'life-long' learning opportunities and the continuing pressure to pursue value for money, will be key issues for college managers.

The pressures for these changes are being fuelled by the realisation that a well educated and highly trained workforce will be critical to the country's future prosperity.

It is clear from international comparisons that we need to continue with our efforts to encourage more young people to progress their education past the age of 16. However, it is also evident from the structure of the existing workforce and demographic projections, that we will not be able to maintain the level of competence of those in employment simply by 'front loading' the system so that a greater number of more highly skilled young people enter it.

Therefore, given the pressures to pursue the dual and sometimes conflicting objectives of increasing the number continuing in education/training post-16 and increasing the competence of those already in employment, the key questions for those attempting to influence colleges from the outside or manage them internally are:

— how can we encourage the system to move towards greater flexibility of provision? and

— how can we reward those who make access and openness to accreditation and achievement more widely available?

Both these questions are linked to the way in which the system is currently resourced and the values expressed through the funding methodology.

PROGRAMME STRUCTURE

As well as considerations of the funding methodology being clearly linked to targets, the content and structure of the programmes which enable achievement of those targets are key elements in achieving openness and accessibility. The National Council for Vocational Qualifications (NCVQ) gives colleges a new agenda:

— the introduction of a comprehensive framework of National Vocational Qualifications (NVQs) linked to the achievement of national education and training targets;

— the introduction of General National Vocational Qualifications (GNVQs) and their impact on existing provision;

— programmes designed to provide equality of esteem between academic and vocational qualifications, including the introduction of ordinary and advanced diplomas;

— the strengthening of A levels as the gold standard and the promotion of AS qualifications;

— publication by law of examination results; and

— extension of training credits to day release students.

This agenda is linked to the aim of delivering national education and training targets as shown below. The future for most colleges will be characterised by pressures for greater flexibility, open access, recognition of work based learning and accreditation of experiential learning, all linked to the provision of lifelong learning opportunities (contained within **World class targets: a joint initiative to achieve Britain's skills revolution,** CBI 1991).

Foundation learning targets:

1. By 1997, 80 per cent of young people to reach NVQ Level II (or equivalent).

2. Training and education to NVQ Level III (or equivalent) available to all young people who can benefit.

3. By 2000, 50 per cent of young people to reach NVQ Level III (or equivalent).

4. Education and training provision to develop self-reliance, flexibility and breadth.

Life time learning targets:

1. By 1996, all employees should take part in training or development activities.

2. By 1996, 50 per cent of the workforce aiming for NVQs or units towards them.

3. By 2000, 50 per cent of the workforce qualified to at least NVQ Level III (or equivalent).

4. By 1996, 50 per cent of medium to large organisations should qualify as 'Investors in People' assessed by the relevant TEC or Local Enterprise Company (LEC).

These combined developments represent a major cultural shift in the operation of colleges which should be reflected in the way in which they are funded.

THE EXISTING FUNDING MODEL

The current funding model is input-related and originates in the schemes of delegation for colleges which followed the implementation of the 1988 Education Reform Act. These are based on the notion of full-time equivalent students (FTEs). FTEs are most frequently arrived at by multiplying each enrolment by a set of multipliers for each mode of attendance. Typical of these value multipliers are the ones found in Schedule 3 (page 67) of the Further and Higher Education Act 1992, as shown in **Figure 13**.

Figure 13: Typical multipliers for conversion of actual student enrolments to FTEs

Mode of attendance	Multipliers
Full-time course	1.0
Sandwich course	0.7
Block release	1.0
Day release	0.3
Part-time (Other than day release but including some part-time study)	0.2
Part-time (evening only)	0.1
Open or distance learning	0.075

(The number of enrolments by mode of attendance x multipliers = FTE students)

This is used to establish the workload of the college in FTEs, via programme areas, and forms the basis of the 'performance agreement' or annual contract between the college and the local authority funding it. The performance agreement also includes targets for efficiency and effectiveness. The effectiveness is determined by the number of completions, the dropout rates, examination successes and student destinations. However, these are not directly related to levels of funding.

As with all resourcing models, the FTE method of calculating the volume of work, and hence the level of funding, does not have a neutral effect on colleges. It sends a powerful message to managers about what is valued and judged as important by those who provide the funds.

The existing system was devised some time ago and does not now accurately reflect the work of colleges. Due to this time difference, unintentional bias has now developed in the system; resulting in a higher value being placed on full-time course students by making it easier to receive resources for them than for more flexible modes of provision.

The multiple objectives for the system, described earlier, make it imperative that the resourcing mechanism is revised; the following example should make clear why.

Should the message be to concentrate on enabling the country to move up the league table of international comparisons, by encouraging more young people to continue in full-time education/training past the age of 16, thereby laying the foundations of a better educated and more flexible future workforce? Or should the main emphasis be on achieving a more highly qualified workforce including retraining those already in employment who require top-up skills and retraining including the recognition of work based training and easier access to lifelong learning opportunities?

If it is to be the former, then the current method of funding FTE students could continue, although there would be advantage in a closer linkage with successful outcomes.

If the latter is seen as the desired direction, then the existing funding mechanism will need replacing by something more sensitive to the funding of flexibility and openness.

Both objectives need to be pursued with equal vigour. This will not happen unless the funding methodology recognises their equal importance.

It is probable that the new FE funding councils may use the concept of FTE student places to calculate the core funding element of college budgets post-April 1993. If this were to be the only method of funding in the long-term, it would slow up the development of more flexible modes of provision. This is because the FTE student calculation is based on the notion that all students are in groups, located in boxes (classrooms) and taught by one lecturer. It therefore places the emphasis, and thereby greater value, on this method of structuring learning; and by doing so discourages other methods of structuring learning in favour of full-time course attendance.

Problems

A major problem with input-related funding is the bias in favour of full-time courses, reiterated by the use of multipliers to convert modes of attendance to FTE student numbers.

These multipliers are notional, were established in an era before the growth of flexible provision and as such bear no clear relationship to the actual study time or the volume of work required by a college to provide the learner programme.

A cautionary example

Perhaps taking the worst possible case, nevertheless the following scenario shows how the current system can be biased against the very types of learning that are now seen as an essential part of FE provision.

Many colleges have now developed open access learning centres providing a wide range of programmes. This kind of provision often operates outside the normal teaching structure of the college. The centres provide flexible learning opportunities for those who cannot attend courses, or complement work based learning, the accreditation of employer training and support accreditation of prior learning.

The work of these centres is mostly based upon the use of self-pacing learning packages (open/distance learning) together with appropriate tutor support. (Similar to the structure of the Open University with the addition of learning centre support.)

Despite the considerable work involved in setting up and providing such a service, the current method of calculating its workload in most LEAs would be to treat open learning students as equivalent to evening class students. The calculation would use the multiplier of 0.075 (see **Figure 13**) i.e. each student is valued at 0.075 FTE. It would take 13.33 learning centre students to equal one full-time student in FTE terms.

However, a typical learning centre student taking a package of A levels could be attending the learning centre for 12 hours per week or more. When the extra administrative costs of enrolment, registration, examination entry, assessment and other support services for 13 students have been added, it can be seen that management time and effort would be most effectively used by concentrating on full-time students at the expense of flexible provision.

While there are certainly economies to be made through an increased use of self-directed learning, it is emphatically not the case that the teaching costs are only one-twelfth of a class-based student.

Thus a bias in the method of arriving at FTE student numbers can encourage a movement towards the provision of full-time courses.

Although some LEA delegated schemes have recognised the need for providing more flexible provision by adjusting the multipliers to give greater value to this area, this is not generally the case.

The fact that many colleges now provide open learning facilities is testament to their managements' commitment to providing greater flexibility and openness. The opportunity costs of doing so, however, could be removed by a more sensitive method of funding.

Defenders of the existing FTE student-driven funding model, argue that there is sufficient slack in it to allow for marginal growth in flexible provision. This argument may have stood up in the past, but the financial pressures on LEAs, coupled with considerable growth in full-time students (most of which have been funded from existing resources) have removed any available slack from the system.

The current funding methodology does not encourage the growth in flexibility needed to satisfy the second major objective required of the system: of providing a more flexible and higher skilled workforce. Marginal increases will be insufficient to meet the retraining and lifelong learning opportunities required by those already in employment.

A further problem with the current method is that because of its focus on input funding, neither the concept of FTE student numbers nor their application to determine funding levels, are related in any way to what the students actually achieve as a result of that funding.

By concentrating on inputs, the current funding process appears (in value terms) to be relegating learning and achievement to second order issues. The linking of principals' salary level to FTE student numbers reinforces this message.

ALTERNATIVE METHODS OF FUNDING

If we are to remove the existing system of input-related funding based on a volume of notional FTE students, we need to be certain that its replacement will encourage the achievement of the targets required from the service. Suitable alternatives which appear to be worthy of consideration are:

- funding outputs/achievement-led resourcing;
- funding credit accumulation;
- funding individuals.

ACHIEVEMENT-LED RESOURCING

The concept of achievement-led resourcing (ALR) attempts to move the focus away from inputs towards learning and achievement, irrespective of the mode of study, time, place or method used to attain the achievement level. It therefore encourages the development of openness and flexibility by valuing it through the funding mechanism.

The term 'achievement-led' is used because it describes a process of resourcing which focuses on learners' achievement.

It is therefore a much more flexible concept and one which opens up the possibility of funding new learning opportunities such as learning centres, work based learning and accreditation of prior learning, all of which will be essential features of tomorrow's colleges.

By focusing on achievements, the ALR funding method also offers the potential for strengthening the links between non-traditional methods of learning and college-based routes to achievement. The methodology is also suitable for use with training credit schemes.

For these reasons the methodology will be of interest to TECs, which have responsibility for increasing the national skills base through increasing the level and number of NVQs as well as purchasing work from colleges.

The concept of achievement

The movement away from notional FTE student inputs towards learner achievement sharpens up the debate on what achievement means within the funding context.

For the bulk of learners the issue is fairly easily resolved, as it will refer to the attainment of a recognised award such as an NVQ. However, care needs to be taken to ensure that the concept is not reduced to the point that notion of achievement is narrowed to mean only qualification or examination success. If this were to happen it would, by implication, reduce ALR models to the resourcing only of successful students; with the resulting potential damage of forcing colleges to recruit only those students who are likely to succeed, thereby closing the door on many others who would benefit from college attendance.

ALR addresses the issue of the starting threshold and the nature, quality and level of attainment which students have when they enter their programme. The funding model does this by using a concept of achievement which is much wider, includes such elements as 'distance travelled', personal development, core skills and other aspects of an individual's development not covered in the assessment of many formal qualifications.

It can therefore be applied to all individuals, formally if need be, through an individualised learning agreement (described later) or notionally to specific groups of students such as special needs, irrespective of their entry level.

The provision of 'second chance' education and training, special needs provision and equality of opportunity are all important features of the FE service which must be retained. A resourcing system based around achievement would be better able to protect these key features.

Learning agreements

The issues of the level of achievement reached at the end of the learning process, and of starting points at the beginning, to arrive at some notion of 'distance travelled' (or value added) are complex. They are worthy of special consideration if we are to maintain the diverse nature of the existing further education service.

Although these issues have not been addressed under the current funding method (mainly because teaching arrangements are uncritically accepted as a good thing), they are still unfairly raised as objections to the introduction of ALR.

The issue of distance travelled is an important one and unless there is a massive investment to enable testing on point of entry – as practiced by many American community colleges – we are left to adopt some of the processes already being developed. This would be surprisingly simple, as the methodology for action planning and its conversion into learning/training plans linked into records of

achievement, is already in place. These concepts need extending to indicate the responsibilities of learners and providers and to record these in writing. This small step would convert the learning/training plans into learning/training agreements. The achievements to be aimed for would be specified in this agreement; as would a guarantee to the provider of funding, should the learner not complete their programme through no fault of the provider.

A similar learning/training agreement could be developed between employers and employees to cover work based learning and the preparation work required for accreditation.

Although the vast majority of these agreements would be standardised in the form of standard outcomes such as NVQ levels, along with process considerations; the system is flexible enough to allow for any entry point and achievement target to be specified and resourced.

Such a system would enable all the features of FE, such as special needs and equality of opportunities to be sensitively included within an ALR performance agreement.

Quality

The notion of achievements gained (distance travelled) is by its nature the result of the processes undergone and the quality of the learning experience as felt by the individual concerned. In an achievement-based system they become central issues rather than relegated to the periphery as in the FTE model.

CREDIT ACCUMULATION

The notion of funding credit accumulation or value added is closely allied to that of achievement-led resourcing. Again, it is funding the output rather than the input. Its particular characteristic is the focus on learning gain, expressed through a collection of credits irrespective of whether this learning is acquired in the workplace, at college, or at home. It represents a powerful incentive to developing work based assessment and accreditation, and an incentive to improve the efficiency of educational establishments by not requiring adults to learn again that which they already know.

The basic concept is simple enough. However, this notion of value added raises some difficult technical issues:

— to calculate the distance travelled by a learner implies knowing not only the end point, but also the starting point for every student;

— account needs to be taken of the characteristics of individual students (some are clearly capable of moving much more quickly than others);

— consideration should be given to the level of difficulty/intensity of the course involved.

There are unresolved problems concerning how and when measurement should take place. It seems clear that, rather than seek unrealistic precision, value added judgements should be formed on the basis of movement between broad bands. Nevertheless, the system has to be sufficiently flexible to discriminate between the special needs student on the one hand and the academic high-flier on the other.

Paul Ellis (in an unpublished paper) has begun to develop a broad conceptual model for an achievement-based resourcing scheme which conveniently identifies some of the key questions and points:

— What achievements are to count? Does one only count NVQs or academic awards or does one use combinations of (say) NVQs and core skills? How much scope is there for judgements at college level?

— How are starting points established? Any value added calculation requires a specification of the level of the student on entry, but there are clearly potential problems with under-reporting the starting point. While some would highlight the costs of such an exercise, others would stress that adequate diagnosis of where students start from is an essential part of the education process.

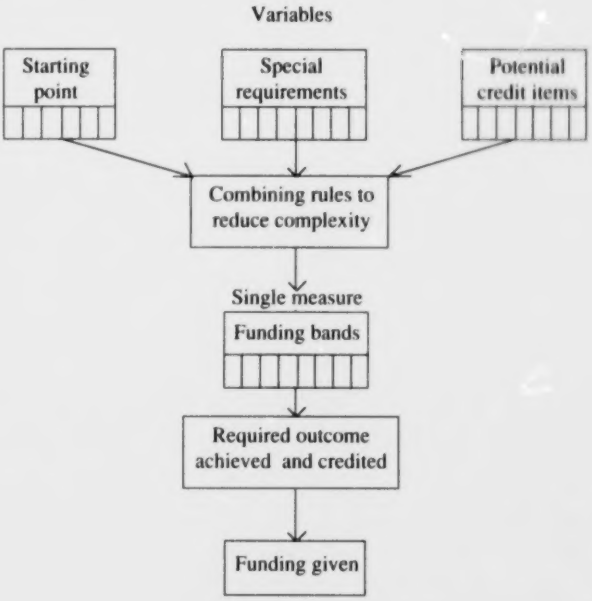
— Special requirements need to be identified. Any funding régime needs to make provision for the requirements of those with special educational needs, following programmes which are particularly expensive or wishing to progress at particularly high speed.

It is probably necessary to have rules to reduce the potential complexity and to establish general bands, rather than a great number of small, overlapping categories.

The development of this methodology should be accompanied by some empirical investigation of the cost of credit accumulation in different areas and by different means. It would then be possible to identify a basic cost per credit and express a limited number of variations as multipliers.

Figure 14 seeks to express these relationships in a simplified form. In terms of the model, achievement is related to a combination of variables which together define distance travelled – the starting point, actual time taken and outcomes achieved.

Figure 14: The schematic outline of a credit-based system



In terms of measurement the model suggests that an element of judgement should be included as well as statistical measurement. This is necessary both to avoid the appearance of spurious rigour which some numerical models give and to maintain the currency of local judgements by subjecting them to external audit.

FUNDING INDIVIDUALS' TRAINING CREDITS

The notion of funding individuals rather than colleges has been around for some time. Milton Friedman has championed the idea since the early 1960s and it has recently been argued by Charles Handy in **The age of unreason** (Handy 1991).

The idea was, however, forced further to the forefront of the agenda in the CBI's publication **Towards a skills revolution: report of the Vocational Education and Training Task Force** (CBI 1989). The support for the idea of individual funding through the use of credits is now being tested and evaluated with the introduction of the training credit pilots being run across the country by Training and Enterprise Councils. Further momentum has been added by the White Paper, **Education and training for the 21st century** (DES *et al* 1991)which suggests that all young people leaving school for employment will receive an entitlement to training/education which will be funded through the use of individual credits. The same ideas are also being tested for unemployed adults. However, the present plans fall some way short of the recommendations by the CBI that all 16 year olds, whether leaving full-time education or not, should be included in one common scheme aimed at creating a market for education/training. Funding individuals via credits is therefore firmly on the agenda.

The CBI argued that such a market would be created by:

- providing every young person with an education and training credit funded by government. To access the credit, the individual would have to be placed with or employed by an organisation committed to providing every employee in the 16-18 age group with the opportunity to work towards a nationally recognised qualification as discussed earlier;
- helping those with special needs for whom employment or full-time education will not be available for one reason or another;
- channelling as much public funding as possible for this age group through the individual credits, so that colleges and other training providers would have every incentive to respond promptly and effectively to new demands from the market;
- looking to the TECs to provide the necessary quality assurance. They would in effect be the regulators of the local training market rather than direct providers of training programmes.

The CBI then goes on to argue that providing resources via individuals rather than directly through college [providers] would have the following immediate benefits:

— it gives a clear signal of the importance society attaches to skill and the rewards which learning can bring. It will increase participation. It treats all young people the same; bridging the education and training divide and raising the status and profile of learning to young people;

— it creates a market which will improve the cost effective use of resources by improving provider responsiveness;

— by providing an entitlement separate from wage or income support it should be attractive to both young people and employers, at a time when demographic change is having harmful effects on the penetration of YTS (Youth Training Scheme). 'A job *or* training' becomes 'a job *and* training'.

— it will act as an incentive to employers and draw in additional business investment;

— giving the credit to the individual will be a powerful influence on persistent non-training employers. Young people in short supply will simply go to another employer offering training.

There are many arguments against the introduction of credits. Most focus on counter arguments of creating a market, namely that they undermine planning and that they may endanger the balance of provision across all stakeholder needs.

There is also an argument that such open-ended funding would result in budgets for the provision of credits being exceeded. Indeed, this concern can be seen in some of the training credit pilots where rather than opening up, market fears of exceeding budgets have resulted in a form of 'rationing by voucher'. This rationing stems from the tight budgets which some TECs have, resulting in a careful allocation of credits. This outcome may well act as a brake on the creation of a training/education market. In the end such a market may well only be established if the CBI's recommendation is implemented – that all post-16 education and training should be directly funded through credits. Currently only the day release programmes are to be funded this way.

A MODEL OF FUNDING FOR TOMORROW'S COLLEGES

Funding is about achieving objectives, expressing values and steering the system towards the aims of its funders. Any funding model is therefore required to meet a number of different criteria.

The main criteria to be satisfied in an FE funding model are that:

— it must encourage colleges to spur more young people to continue their education/training past the age of 16 in order to achieve higher qualifications; and it must encourage colleges to raise the level of competence of individuals whether or not they are in employment, through the provision of open and flexible opportunities for lifelong learning; it must be seen to reward and value both of the above objectives equally;

— it must both reward and encourage flexibility and responsiveness, generating increased resources where they are needed;

— it must enable the funders to achieve their objectives and be sensitive enough to respond to change in policy or demand;

— it must be predictable and easy to calculate and administer, avoiding unintentional bias;

— it must offer some funding stability to colleges to enable them to manage their cash flow;

— it must focus on 'achievements gained' and 'value for money'.

In addition, the model must include an element of up-front funding to enable programmes to commence and provide the right level of cash flow needed to keep colleges in business. It would also be highly desirable to enable academic and financial years to be harmonised.

Such a model would need the following components:

— annual core funding;
— annual additional funding;
— learner funding.

Annual core funding

Despite its inherent drawbacks, it would be unwise to completely remove the existing notional FTE funding model. It is widely understood and also provides the level of stability and predictability needed by colleges. However, it should be adjusted to meet the needs of both the objectives expected of the service, by amending the multipliers used in the conversion to notional FTEs (particularly those related to more flexible modes of attendance) by placing higher value on them.

Additional annual funding

Additional annual funding should be used to strengthen the links between inputs and achievements by identifying an extra premium (say 10 per cent of the total funding) which would be made available to colleges which satisfy the following two elements:

— ability to demonstrate an appropriate entitlement curriculum including a balance of available learning opportunities (the development of an index of accessibility, identifying a number of modes of achieving an award). Provision for special needs and equal opportunities would need to covered;

— ability to demonstrate achievements through such measures of effectiveness as quality assessment, student successes related to learning/training plans, proportion of awards achieved as a percentage of enrolment, number of completions, destinations of students not completing and destinations of students completing.

Each college's annual reporting system could be standardised to provide the data required.

Learner funding

Measures to empower learners and to encourage linked learning agreements with employers could be funded through the planned extension of the training credits schemes. Such credits should be based on learning agreements which specify responsibilities and targeted learning achievements.

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Chapter 5

Are we really considering the customers?

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Editor's note: The author, who has written this article in a personal capacity, has been Director of Education and Training at the Confederation of British Industry (CBI) for the last six years.

INTRODUCTION

The publication in May 1991 of the White Paper **Education and training for the 21st century** (DES *et al* 1991) – which confirmed the Conservative Government's intention to resource further education, tertiary and sixth form colleges primarily through new funding councils for England and Wales, rather than through local education authorities – has set in train a lively debate on what system of funding should be adopted. That debate has continued with the enactment of the Further and Higher Education Act 1992.

So far the main focus of attention – if one puts aside, first, the sensitive issue of the funding of **non-vocational** adult education and training and, second, what perhaps can best be called 'party political points' – appears to be on ways in which the funding system can be used to enhance the effectiveness of the further education sector. In particular, much attention has been directed at ways and means of relating the resources the colleges receive to their relative success in delivering 'outputs'. The main output is seen to be nationally recognised qualifications – or units towards them – or, under a more sophisticated model,

increased value added which takes account of where the student starts as well as where he or she finishes.

The health of the further education sector is something that is very close to the heart of the business community; and any public debate on how it can be enhanced should be encouraged. Yet the present basis for funding the further education institutions appears obscure to the layman, as indeed it does to some of us who have attempted to understand it. The present system seems to be based more on history than logic and there is little support for continuing the present funding system beyond the short-term. That, in itself, is a major step forward and can be warmly welcomed.

Yet there appears to be one important ingredient missing from most of the exchanges and that element is potentially the most important of all: namely the extent to which the customer should 'call the shots'. This absence is all the more surprising, given the stress put on the role and responsibilities of the individual in the Government's February 1992 White Paper, **People, jobs and opportunity** (1992). This White Paper is possibly the strongest statement yet of the Conservative Party's belief in the individual. But this same government, which has embraced both citizens' charters and financial training credits for those young people not in full-time education, has remained silent so far on empowering the young customer in full-time further education.

This chapter examines the case for extending the training credits initiative to cover full-time further education.

'TOWARDS A SKILLS REVOLUTION'

In October 1989, the CBI published the report of its task force on vocational education and training (entitled **Towards a skills revolution: report of the Vocational Education and Training Task Force,** CBI 1989). The task force had been established at the 1988 CBI National Conference under the chairmanship of Sir Bryan Nicholson. Its brief had been to review Britain's vocational education and training effort and to make recommendations to bridge the skills gap. The report had as one of its main themes the need to create a market for training. Another was that there had to be greater focus on the individual. Taken together these two elements were vital ingredients to spark off the revolution whose success is so essential for our future competitiveness and economic survival.

The report argued that not only was it essential that we raised our skill levels to match those of our competitors, but also that this would not be achieved unless we can find ways and means of effectively engaging and motivating individuals to play their full part in achieving this objective. 'Individuals need to be helped to make the best possible use of their talents. Their horizons need to be broadened and their expectations of themselves raised.

The task force put forward four main recommendations for action to enable individuals to play their full role as 'skill revolutionaries':

— first, motivating people to learn by presenting all young people with opportunities within a coherent education and training framework that gives vocational and academic courses equal status;

— second, creating an individual focus through personal profiles in education and employment, backed up with the necessary professional and independent advice and support. Everyone, not just young people, should have an individual action plan agreed jointly with their teacher or manager together with access to much improved careers guidance;

— third, offering core transferable skills and relevant qualifications for everyone. All courses should include the common learning outcomes or core skills needed both by employers and by individuals to make the best of their lives. All qualifications should promote broad-based rather than task competence;

— fourth, providing financial incentives to individuals so that they have real buying power and influence in a new education and training market. In particular, it was proposed that all 16 year old school leavers should have a cash credit which could be spent on courses leading to nationally recognised qualifications; and that adults should have personal tax relief when paying for their own training to achieve such qualifications.

PROGRESS TOWARDS PUTTING THE INDIVIDUAL FIRST

In the three years since **Towards a skills revolution** (CBI 1989) was published, a great deal has been achieved to implement these proposals.

Quantifiable national targets have been set for education and training. The Government, employers, trades unions, most TECs and other education and training organisations have come together to support the National Education and Training Targets. The targets are based on those set out in **Towards a skills revolution**. They exchange generalities for specifics and will provide a focus for action in the education and training field. It can be argued that further education has the main responsibility for meeting the targets.

The Government has sought to achieve greater coherence in the education and training system by piloting general pre-vocational qualifications, known as General National Vocational Qualifications (GNVQs), suitable in particular for young people prior to them moving on to acquire specific National Vocational Qualifications (NVQs). Also on the table are proposals for developing an 'advanced diploma' which amongst other things is designed to achieve parity of esteem between academic and vocational qualifications. This is the first time this has been done and that alone provides grounds for welcoming the proposals even if the details still need to be refined to fully meet their objectives.

A National Record of Achievement (NRA) for schools has been introduced to supplement the National Record of Vocational Achievement (NROVA) that already existed for those in employment. Now that the National Council for Vocational Qualifications has been given the role of bringing the two records together, we can look with some optimism to action planning being an integral and important feature. Steps have also been announced recently to strengthen careers advice and guidance, including the proposed piloting of cash credits to empower adults, whether in or out of employment, to seek independent advice – 'skills check'. Other steps are also being taken to enhance the services available and improve their organisation.

Feasibility studies have been undertaken on the practicality of incorporating core skills in both academic and vocational qualifications. Competency in numeracy, communication and a modern language may well be an essential requirement before anyone can receive the proposed 'advanced diploma'. The NCVQ has accepted the need for NVQs to provide for broad-based occupational rather than narrow task competence.

Perhaps most important of all, training credits are being piloted for those 16 and 17 year olds not staying on in full-time education in 11 Training and Enterprise Council (TEC) and Local Enterprise Company (LEC) localities. These are to be followed by a further nine pilots next year and the Government has announced

the intention to make training credits available nationwide by 1996. While there have inevitably been teething problems, one of the most remarkable features of the pilots has been the extent to which many of those who have been directly concerned with their implementation – be they educationalists, providers, employers or the young people themselves – have been won over by the logic of training credits as the most direct and potentially effective way of getting the education and training system to focus on the needs of the individual.

CREATING AN EDUCATION AND TRAINING MARKET

An integral feature of the Government's education policy has been the creation of an internal market for state schools. Open enrolment, the local management of schools, 'opting out' and the setting up of new or different types of state school are all part of a strategy to widen choice and use competition as a means of creating a more efficient and effective school system. A similar approach of creating an internal market has also been followed for the running of the National Health Service.

Towards a skills revolution (CBI 1989) proposed that training credits should be introduced for young people staying on in full-time further education as well as for those leaving full-time education. The key feature of education or training credits was identified as being that the recipients could use them to pay for training towards a nationally recognised qualification irrespective of the route.

A system of training credits for all 16 year old school leavers could not be administered through the new further education funding councils for England and Wales because for those in employment, the training will be provided in many cases by the employers directly or by private providers who are not part of the public further education sector.

The most appropriate way to introduce them would be for the funding councils to forge a partnership with the TECs to market the credits jointly using common formats. The funding councils would encash the credits for those in full-time further education and the TECs would do the same for those in employment or in training with private providers.

This approach would offer several advantages, as it would allow the funding councils to set up their own financial régime. For example, training credits cashed in for those in full-time further education and the TECs would not require

the payment of a training allowance; while the training credits systems operated by TECs at the moment requires the payment of training allowances for those young people who are not in 'employed status'.

Another issue that would need to be addressed is how training credits could be used to reinforce the drive to reward the further education colleges on the basis of the outputs or value added that they achieve. There is no obvious reason why this should be more difficult with credits – whose use will have the additional dimension of expressing a market-place preference – than with a system based on centralised administrative decisions.

Yet another matter that will need to be decided is the extent to which the full cost of provision for the qualification in question is reflected in the value of the credit, including capital costs. There is an argument for running a block grant system alongside that of the training credit, at least to provide a safety net over the transition period and, just possibly, longer.

None of these issues should be a major stumbling block in the way of the introduction of training credits for full-time further education.

THE WAY AHEAD

Towards a skills revolution (CBI 1989) proposed that training credits should be introduced for young people in full-time further, as well as part-time, education and training. The arguments used – increased transparency, motivation of both young people and employers, establishing a training market and focusing on customer as well as supplier considerations in developing the education and training infrastructure – apply just as strongly now. Indeed, the experience gained with the pilots to date suggests that, after the teething problems have been resolved, the operation of training credits will be a powerful influence in unlocking the potential of young people and raising their expectations and achievements.

The increased interest shown by young people in staying on in full- or part-time education and training, together with the Conservative Government's willingness to introduce radical measures, are further reasons for suggesting that the time is right to embrace such a change.

It is understandable that the idea of extending training credits in this way was not adopted in the Employment Department's February 1992 White Paper, **People, jobs and opportunity** (DES *et al* 1992) – given that further education is the responsibility of the Department for Education. What is not understandable is that the question is not being widely debated now. It ought to be – and if this chapter contributes to that process it will have achieved its purpose.

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Chapter 6

Achievement-based resourcing

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INTRODUCTION

This chapter looks at the theory and practice of output-related funding (ORF) as operated by the Department of Employment through Training and Enterprise Councils (TECs) in the delivery of the Youth Training (YT) and Employment Training (ET) programmes. It is divided into three sections: the current system and its operation; a critique of that system; and some thoughts about an alternative model, with special reference to the development of training credits.

THE CURRENT SYSTEM: OUTPUT-RELATED FUNDING

Introduction

The description of output-related funding in this chapter relates to the scheme which operated for the 1991/92 financial year and which is incorporated within operating agreements between the Department of Employment and TECs. The scheme applies to the provision of Youth Training and Employment Training.

Methodology

A percentage of the funding made available to TECs for the provision of YT and ET is output-related. It is, therefore, dependent on the achievement of certain outputs and the substantiation of that achievement through an audit trail

acceptable to the Department. TECs in turn fund training providers according to the same principle as set out in their business plans for the year in question. Each TEC agrees a range of target positive outcomes from YT and ET schemes aggregated across its area with its regional office of the Department. Those positive outcomes are weighted by different values according to the nature of the outcome and converted into output-related funding points.

The process for agreeing the range of target outcomes is as follows:

— the projected number of scheme leavers in the area for the financial year in question is established;

— for each type of positive outcome a baseline success factor is determined;

— the success factors are uprated to take account of expected improvement;

— the uprated success factors are applied to the projected number of leavers to obtain a numerical output target; and

— the outputs for YT and ET are added together and weighted by their different values to establish the overall target of ORF points for the TEC.

TECs are responsible for their own systems to collect data from training providers in order to claim ORF funding.

The sections below examine the components of the above methodology in more detail.

Youth Training

The number of scheme leavers within the TEC's 'catchment area' is projected by taking the profiled starts for the previous financial year and the actual starts during the first 32 weeks of that year. To these are added an estimate for leavers from the National Provider Unit (TNPU) schemes. These are schemes run by large organisations whose catchment area can cover that of many TECs. The resulting total is adjusted if that total is out of line with the TEC's budget allocation for the financial year in question. It is recognised by all concerned that,

because of the use of estimates, the total arrived at is a crude one.

The outcomes which are deemed as successful are as follows:

— NVQs or equivalent at Levels II and III or higher gained by those trainees who have remained in training for a minimum of one month;

— for those trainees 'endorsed' by the Careers Service as having special training needs, a NVQ or equivalent at Level I or success in an agreed foundation course such as 'Wordpower', gained by those who have remained in training for a minimum of one month.

Trainees achieving NVQ Level II and 'endorsed' trainees achieving NVQ Level I are outcomes worth one ORF point. Endorsed trainees succeeding in an approved foundation course are worth half an ORF point, and trainees achieving an NVQ at Level III or higher are worth two ORF points.

An outcome success rate is then established from the national follow-up survey of leavers relating to two years before the financial year under consideration. An improvement factor is then applied which, in the case of the 1991/92 financial year, was approximately seven per cent over the achievement for the 1989/90 year applied nationally. The improvement factor relates to the achievement of NVQ Levels I and II only.

Employment Training

The number of scheme leavers is calculated in a similar way to Youth Training, but making provision for the national reduction in the ET budget.

The outcomes which are deemed successful are more complex than for Youth Training due to the different categories of trainee. For trainees who qualify on the basis of length of registered unemployment the outcomes are as follows:

a) employment or self-employment; or

b) full-time education or training (but excluding YT, ET and Higher Technology National Training);

achieved not more than three months after leaving for those trainees who have remained in training for a minimum of one month and/or:

c) NVQ at Levels I, II or III for those trainees who have remained in training for a minimum of one month.

For trainees who are receiving ET because they are in a skills shortage area or who are returners to the labour market the outcomes are:

d) NVQ at Level II or above gained by those in employment or self-employment three months after leaving ET and who have remained in training for a minimum of one month.

Trainees achieving a) or b) above are worth two ORF points. Those in groups c) and d) above who achieve a NVQ at Levels I or II are worth one ORF point, while those achieving NVQ Level III or higher are worth one and a half points.

Success rates are calculated on an historical basis from data from the follow-up survey up to the middle of the year before the one under consideration. Interestingly, the Department of Employment arranged a small sample survey of people claiming a vocational qualification or credit towards one and found that only some 20 per cent of these had actually achieved one!

An improvement factor is applied to each category of leaver to obtain a target output for each, which is then aggregated to obtain an overall target for the TEC.

General

The rule relating to status after three months of leaving the programme is that the positive outcome is measured at that point and ignores a trainee's status for the period in-between. In addition, where an ex-trainee has been offered employment, or a place on a full-time course of education or training but has not taken it up at the three month point; that outcome cannot be counted for ORF purposes. The lack of flexibility appears to be total.

The NVQ equivalents are vocational qualifications in occupational areas and at levels where NVQs do not yet exist. They are specified in the **Consolidated list** issued by the Employment Department's Qualifications and Standards Branch and updated quarterly. They are also identified in the NCVQ Database. As new NVQs become available they are added to the listing and the equivalents are removed. Equivalents which are removed are still allowed to count for a prescribed period following removal. It is open to TECs to propose vocational qualifications which they consider should be included in the approved list.

A somewhat strange part of the rules surrounding output-related funding is that so-called educational qualifications will count as successful outcomes for ORF purposes if they are 'vocationally relevant' and are 'in the context of occupational training intended to lead in due course to a vocational qualification contained in the VQ listing'. There is no definition of 'vocationally relevant'. Additionally, the VQ to which the occupational training is intended to lead does not need to have been obtained within the YT or ET programme. This would appear to be so open-ended (after all, any course of training could be said to lead to a vocational qualification) that it is not at all clear how claims under this part of the system would be assessed.

In the event that it is possible to assess such claims, there is a set of values for educational qualifications as follows:

Five GCSEs grade C or above	=	one Level II NVQ
One A level	=	one Level II NVQ
Two AS levels	=	one Level II NVQ
Two A levels	=	one Level III NVQ
Four AS levels	=	one Level III NVQ
One A level plus two AS levels	=	one Level III NVQ

For endorsed place YT trainees only, and all ET trainees, the achievement of three GCSEs irrespective of grade, are for the time being deemed to be equivalent to the achievement of a NVQ Level I for funding purposes.

THE CRITIQUE

Introduction

Although this chapter, and therefore this critique, deals mainly with Employment Department/TEC notions of output-related funding this critique is also applicable to, and draws on, criticisms made of other output-related models within the education system. Such criticisms include those developed in relation to the debate about the use of crude examination results to assess the effectiveness of education establishments.

The basis of the critique is that any system which looks exclusively at outputs and therefore ignores either inputs or process is fundamentally flawed. It is flawed because it cannot be an adequate basis for the assessment of the efficiency or

effectiveness of the provider of the education and training. But even more seriously, if financial reward is based upon an output model (such as ORF) it will distort the recruitment of students/trainees and the provision made for them, to the detriment of that provision.

Evidence from the Audit Commission

The first source of evidence is the Audit Commission working paper **Two Bs or Not...? Schools' and colleges' A level performance** (Audit Commission 1991) This study, which is still in progress, is looking at the relationship between the GCSE attainment and the A level attainment of different types of educational establishment to draw conclusions about the effectiveness of those types of establishment. It argues that 'any attempt to compare A level performance by type of institution ought to take prior differences in attainment into account'. The reason for looking at GCSE performance is that it is 'by far the most important predictor of A level performance'.

The study looked at data relating to 1721 young people who took A levels in the summer of 1988 drawn from the Youth Cohort Study funded by the Departments of Employment and Education and Science. It divided institutions into five groups: independent schools; maintained schools; sixth form colleges; tertiary colleges; and further education colleges. The methodology comprised devising and applying a points score for attainment in GCSE examinations in year 11, to demonstrate the input to the five types of institution. Unsurprisingly this varied, with the independent schools enjoying the highest level of input and the further education colleges the lowest, with the others clustered in between.

Crudely speaking, this input was then compared with the output of the five types of institution based on the UCCA (Universities Central Council for Admissions) points score of A level results. The result was that 'no particular type of institution stood out as being especially effective or ineffective'. The significance of this is that, viewed from the standpoint of outputs only, certain institutions such as independent schools appear to be doing better. But when inputs are also taken into account it is possible to assess the value added by the institution (that is, the distance which the institution enables the individual to travel from the point of entry – input – to the point of exit – output) which is found not to vary by type.

This concept of value added could be developed as a measure of the effectiveness of institutions which, in tandem with efficiency indicators, could be used as a

basis for resourcing. In order to do so, however, a number of matters raised by the authors of the Audit Commission report would have to be addressed, namely:

— the extension of the value added approach to other qualification outcomes and, consequently, other courses of education and/or training;

— the extension of the value added approach to outcomes not currently covered by externally validated qualifications.

The latter could entail identifying process factors as well as outcomes.

Evidence from the National Council for Vocational Qualifications

Working papers prepared by the NCVQ (unpublished) argue that because the way in which resources are allocated to providers has such a pervasive and wide-ranging influence, allocation should take account of a number of factors including achievement and learning gain. They state quite clearly that 'resourcing solely on the basis of full NVQs achieved will neither be a sufficiently sensitive nor a comprehensive basis for funding'. In a paper written for the Council by Peter Wilson (1991), the concept of credit-based resourcing is developed.

The reasons put forward in Peter Wilson's paper, for the inadequacy of the achievement of NVQs (or other qualifications) as a basis for resourcing providers are threefold:

— that it is an inconsistent measurement because qualifications have no common unit of value (note above the Employment Department's crude table of equivalences between academic qualifications and NVQs);

— that it is an insensitive measurement because it does not take account of distance travelled by learners from a variety of starting points (see Audit Commission study above);

— that it is inflexible because it does not take account of partial success or individualised programmes of study (see work of CEI Consultants Ltd below).

Peter Wilson's alternative is a model based on the concept of the credit which is now firmly established in higher education at least. He rightly differentiates credits, which are units of value, from modules, which are units of delivery. He

further maintains that in order to relate the achievement of credits to the allocation of resources, the former need to be based on learner achievement in order to measure value added or distance travelled. The problem is how this is to be done within an existing framework of qualifications by a wide range of awarding bodies.

His solution is to gain agreement to 'the time an average learner, properly resourced and supported and with appropriate technical support, can reasonably be expected [to take] to achieve a particular outcome'. This he calls 'notional' time and describes it as an outcome, compared to the actual time taken by any one student which is described as an input. He maintains that the efficiency of any particular institution or part of it may be calculated by comparing the aggregated actual time taken by groups of students with that group's notional time. For funding purposes, the notional time may be divided by an agreed unit of credit. These units could then be multiplied by a unit of resource. A provider's total planned and/or achieved units of credit thus multiplied by the unit of resource would represent its budget.

Peter Wilson recognises that this model does not allow for the fact that different learners may require different levels of support in order to achieve the same learning outcomes; and that without some modification such a crude system of resourcing would reward the recruitment of the more able student, who will gain the learning outcome less expensively, to the disadvantage of the less able. His solution, which is specifically related to those with special educational needs, is weighting by level although he also mentions in passing weighting by categories of student. He does not explain how either of these weightings would be calculated. Weighting by level, for example, would not recognise the extra time needed by a student with special educational needs to achieve a qualification. How would weighting by category of student fit with resourcing by credits?

Herein lies the problem with this approach. The main issue, which is finding a way of resourcing on the basis of value added or distance travelled by individual students/trainees is passed over lightly with vague references to weighting; while the bulk of the method deals with a complicated system of parcelling up time for funding purposes which is based on the average student/trainee. It is not clear how notional time would differ from course length; indeed, Wilson acknowledges that:

> The calculation of a college's budget by multiplying the aggregated credit target by weighted units of resource will, in the first instance, be

identical to the same college's budget calculated by weighted full-time equivalent student numbers.
(Wilson 1991)

Although this is a valiant attempt to produce a better model of funding than the present input-only method, and to the present crude output-related one in YT and ET; it still deals primarily with outputs and therefore takes insufficient account of the need to fund on the basis of the relationship between inputs and outputs, the value added or distance travelled.

Others' evidence

This section deals briefly with other sources of criticism of output models of resourcing. The first of these is in a report in **Policy Studies** from the Policy Studies Institute by Ian Christie and Heather Rolfe entitled 'The role of TECs in inner city initiatives' (Christie and Rolfe 1992). That report draws on other published criticisms such as that by the Centre for Local Economic Strategies (CLES) which noted that a reliance on job placement targets by the American Private Industry Councils (PICs) had created a serious distortion in the training system, which had led to a tendency for creaming (quoted in Christie and Rolfe, 1992). CLES felt that the application of output-related funding by TECs might lead to the favouring of mainstream trainees at the expense of disadvantaged clients.

The second is the partial acknowledgement by the Employment Department that the current régime of output-related funding is not perfect, as evidenced by its commissioning of CEI Consultants Ltd to research more relevant outcomes for trainees with special training needs. The report (entitled **Performance indicator systems for special needs training**, CEI Consultants Ltd 1991) acknowledges that the NVQ structure, which forms the basis of the output-related funding system, is largely inaccessible to trainees with special training needs. It further discovered that value added was 'widely recognised as the most appropriate approach to performance indicators'. However, the report also discloses that many providers felt that the basis of assessment for such trainees 'should not markedly differ from mainstream YT'. Presumably it was for this reason that the consultants' proposal consists simply of identifying three types of outcome:

— vocational qualifications;

— labour market penetration including employer placements and employee status; and

— non-vocational qualification positive outcomes such as a permanent job, entry to further education/training and transfer to mainstream YT.

It must be said that this is an unimpressive development as the first of the above is no real advance on the current situation, while the second and third are more a test of the state of the labour market than of the training provider. No real attempt has been made to address the very issue identified, namely, the identification and reward for value added or distance travelled.

The final piece of evidence considered here comes from a quite different source: the first TES/Greenwich lecture given by Professor Peter Mortimore. His concern related to schools but is applicable to any education/training process. Citing school effectiveness research, he makes the point that the intake of a school needs to be taken into account in any judgement of its effectiveness and that an urban school may advance the progress of their pupils a great deal but that this would not be evident from a crude league table of examination results when compared with schools with a higher level of intake.

The problem about questioning the use of crude output indicators is that it falls foul of the political right's allegation that 'soft' indicators such as social deprivation indices are being used to justify low expectations of, and attainment by, such pupils. What is required is a system which takes account of the level of achievement of the intake, identifies both processes and outcomes relevant to each individual, and rewards the provider for enabling achievement. How can this be done?

ALTERNATIVE MODELS

Introduction

There are two projects which are looking at the concept of learning gain and achievement-based resourcing. One is at Croydon College funded by the Further Education Unit (Achievement-led resourcing). The other is at Wirral Metropolitan and Milton Keynes Colleges funded by the Employment Department (**Learning gain in further education and achievement-based resourcing**, Milton Keynes). This section will examine the potential of these pilots and relate them both to training provision and training credits.

Croydon College

The aims and objectives of this project included the development of a model for resourcing on the basis of target student learning achievement rather than numbers of student places as a proxy for such achievements. The project also aimed to promote flexibility in the delivery mode, and to develop a model of provision which stresses learner achievements as intrinsic to quality .

The research phase of the project identified the need to avoid a poor definition of achievement and thus a crude 'payment by results' system which characterises the Employment Department's ORF system as described above. It recognised that there were highly valued achievements, such as personal development, which might be fundamental to a student's progress but not assessed as part of a formal qualification. This led to the development of the concept of the achievement pathway.

This pathway comprises the following:

Stage 1	reception, information/counselling/guidance, interview/admission/enrolment.
Stage 2	action planning, assessment of prior learning, entry to learning/training programme.
Stage 3	induction, delivery (various modes), learner outcomes.
Stage 4	exit assessment, assessment, examination.

It recognised that not all students will go through all the stages, and that some students will loop back through some or all of them. It represents a dynamic process not a static set of outcomes.

The project proceeded to cost the various stages, but identified the need to break down the delivery stage into identifiable 'achievement credits' in order to

resource the value added concept, rather than simply the successful completion of the whole programme and thus avoid a crude payment by results. The attempt to do this by the use of learning outcomes rather than the use of a notional time base (see the section on Peter Wilson's paper above) proved challenging. Unfortunately, the project time-scale did not allow the project team to become actively involved in defining achievement credits and thus a significant issue remains unresolved. The project does, however, move forward the development of a resourcing model based on value added or distance travelled.

Wirral Metropolitan College and Milton Keynes College

The aim of this project was to 'develop a model of a college capable of being resourced on an achievement basis in order to deliver transferable units of credit'. The project identified three stages through which a student passes (unsurprisingly similar to those identified by the Croydon College project) as follows:

Stage 1 on entry to college:

- reception/information/advice/appointments;
- planning and choosing, focus guidance;
- initial assessment/accreditation of prior achievement;
- recognition of NROVAs, records of achievement.

Stage 2 within college:

- recognition of NROVAs, records of achievement;
- support services;
- learner contract;
- learner gain, qualifications, summative records of achievement.

Stage 3 leaving college:

- careers guidance.

The second part of the project was concerned with resourcing an achievement-based model which actively facilitates individual achievement and value added. Like Croydon College, the project decided on the use of credits for this purpose, based on the concept of a credit hour derived from notional learning time. The resourcing implications of this concept are, however, developed in a more sophisticated way than either the Croydon College project or Peter Wilson's model (see above).

This is the notion of a 'resource grid' which has along one axis the mode of delivery such as distance learning, open/flexible learning, group learning and resource-based learning, and support services along the other axis. The grid also has four categories of outcome which are initial credits, target credits, achieved units of credit, and credits for personal effectiveness skills. Although this is a more sophisticated model, the project acknowledges that there is a need for further research in this area.

Training and training credits

Clearly there is no reason in principle why the concepts developed in either of the above two projects could not be applied to the training process in YT and ET; the basic process of enabling individuals to achieve agreed learning outcomes is common to all. In practice, even though one of the projects was funded by the Employment Department, the shift in thinking from the present crude ORF system as described at the beginning of this chapter is so great that it is likely that only a pilot is possible at this stage. The development of training credits could provide the vehicle for such a pilot. Training credits subsume both YT and part-time released FE, and operate by providing a 'training account' with a monetary value to all 16 and 17 year old full-time education leavers. Individuals use this training account to purchase training to approved standards (i.e. that which leads to an NVQ or equivalent). However, training credits also employ the devices of action planning and training plans. The former is prepared as part of an enhanced careers advice and guidance process prior to leaving full-time education and identifies the student's long-term career aim and the education/training route necessary to get there. The training plan documents previous achievement, the target qualifications, the proposed mode of delivery and any additional support requirements.

As the development of training credits is at a very early stage, there is much scope for the next round of pilot schemes to develop these planning instruments. It does not require much imagination to envisage the incorporation of the concept of achievement credits and the other elements of an achievement pathway into action plans/training plans, such that they become the basis of the costing/pricing mechanism. In the pilot being developed by South Thames TEC, for example, it is proposed that payment be made to providers of training on the basis of units or modules achieved by trainees and not simply for trainees' attendance. These units or modules will be itemised as part of an individual training plan. If more generally adpoted, it could be a very exciting way of developing the resourcing of both YT and at least a part of work-related further education.

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Chapter 7

Achievement-based resourcing: a college manager's view

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INTRODUCTION

Let me start with a fairly personal view of resource management as it currently exists in FE. I have been fortunate in gaining a fair amount of hands-on experience in resource management. This has, perforce, been acquired without prior training or concurrent mentoring. I have learnt to handle resources and budgets through direct experience, much of which has been quite exposed, and some of which has been of the learn-or-die variety. This direct experience has come from working across FE and as an LEA officer, and embraced both public and private sector resources. Often, and rewardingly, as one's understanding of an area grows, so does one's respect for certain of the players and for their visions and leadership. Disappointingly this has simply not happened for me with resource management in FE; where higher order thinking and expertise, and the creativity essential to future development, appear to be depressingly absent, whatever the arena. I have therefore always needed to step outside FE to higher education, other nations and other sectors to find the training, support and stimuli needed.

Further education managers appear to be prone to 'operational syndrome', an inherent tendency to revert to operational matters irrespective of the requirements. This preoccupation with functional management is apparent across their range of responsibilities, but is reinforced in the area of resource management by a very proper concern to work within the given parameters. The financial context has

largely been set by local education authorities (LEAs), and under their régimes many college managers have frequently been unable to distinguish between proper regulations and constraints, and arbitrary ones. Where they have been able to make these distinctions they may have been very wise in not challenging the arbitrary ones and thus invoking hostility and penalties.

Therefore, able managers of resources have frequently routed their interests and expertise into lower order and technical aspects of resourcing. In addition, the virtual absence of women, coupled with people's conviction that resource management is particularly difficult, has restricted the sources from which new ideas and skills might be drawn. As a result there is relatively little material for colleges to draw on regarding either long-range resource management, or the relation of resources to educational outcomes. As a test of this, try using the term 'investment' with a group of FE resource managers and see how it is received and interpreted.

Therefore, I would argue that we are as a result of our history and current circumstances, significantly unprepared conceptually and also under-skilled and under-powered when it comes to making the most of the new opportunities and constraints which will accompany the incorporation of FE colleges. Whilst this issue can be addressed in several ways, for this chapter I shall focus upon three imperatives:

1) the need to redirect the focus of resource management by senior college personnel;

2) the need to develop connections between resources and educational purposes and quality at the points at which the purposes and quality reside; and

3) the need to learn from the resource management practices of other sectors and nations.

These three imperatives have in common the overriding need to create a virtuous spiral between resources and achievement. I therefore begin by proposing some essential features of an achievement-led approach, and then refer to its implementation within one particular college.

A BROAD VIEW OF ACHIEVEMENT-BASED RESOURCING

Above I noted that in FE it appears endemic that resource management reinterprets itself as budgetary control, whatever the requirement at the time. Therefore action has to be taken to prevent this from occurring. In broad terms one can identify three tiers of resource management which, in ascending order of complexity, are:

- the management of current income and expenditure;
- the search for cost-effectiveness; and
- strategic resource management.

To distinguish between these and to ensure action on the second and third of them, one needs an appropriate separation of responsibilities together with a facilitating structure. A hierarchical structure simply encourages and obscures that slippage into budgetary control; the clear assignment of responsibilities within an explicit strategic management cycle is a much more effective approach.

However, if aligning resource management with the overall strategic plan of the college is to lead to the desired results, then the plan itself must be both adequate, and tied into the management processes of the organisation. An adequate plan will give clear indications of the long- and middle-term requirements of the college budget, which will enable the resource manager to chart the significant shifts needed, early enough to be able to tackle even the most complex changes. Among these will be the required development of the college infrastructure; therefore major changes in premises and plans for computer integration will appear from the outset.

In educational management, resources have a purpose outside themselves; they are not a good thing in their own right in the way that they are where shareholders require a financial return; their importance lies in the value they add to human capital, both specific and general. FE's right to resources depends upon the quality of its stewardship and the value it can add relative to that added by other services. Therefore the key relationship is resources to added value. Yet this relationship is fairly tenuous in most colleges – unless you are prepared to argue that enrolments in themselves equate to added value!

So essential goals for any strategic plan at the current time are:

- the search for more visible and accessible evidence of value added;
- the closer association of resources with value added; and
- the management of resources to maximise value added.

Given the likely onset of national funding and incentives for growth, it would be a foolish college which decided to leave these out.

So achievement-based resourcing starts by specifying added value and achievement as the main goal of the organisation, and then integrates resource management with the college's strategic plan. The responsibility to implement the plan then has to be inescapable, despite its difficulties. To guarantee its implementation requires the enhancement of all senior managers' skills, both generic and specific. While these are growing, rigorous feedback systems are essential, as may be explicit measures for helping those involved to read trends and assess their significance and relevance.

By tying resource management to the overall strategic development of the college, one can estimate the scale of the changes to be managed and establish sets of outcomes and milestones. However, one is still dealing with a global budget at this stage. So the need is then to analyse the budget using the enhancement of achievement as the criterion. There are many ways of getting to grips with achievement: for example, through student and client groups; learning modes and styles; assessment and certification. All need attending to, and all are complex, ever-changing, and bedevilled by the current assumptions and calculations in use. Achievement nevertheless has to be given an operational definition, so that it can be managed in close relation to resources. Here one is doing no more than constructing a formula; however, its worth and long-term usefulness lies in the educational understanding and farsightedness which underpin those parts of the formula which represent achievement.

To increase achievement, since each of its facets is distinct, different approaches are required. For example, student and client groups can be represented through a map of the services that they require, and acted upon in a rational sequence. Learning modes and styles require simplifying to notional time and distinctions between taught and alternative learning styles eliminated. Qualifications have to be subsumed within an overarching framework for credit.

If one keeps in mind the need to estimate the distance travelled by the learner laterally and vertically, then it is clear that the student services must include initial assessment and accreditation using the same basis as is used for final assessment and certification. The design of such a base requires sophisticated curriculum skills plus decisions about entitlement. Whilst a broad student entitlement will normally be regarded as increasing the net expenditure of the institution; in a properly constructed achievement-led resourcing system, such

an entitlement may be developed to the net advantage of the college, in resources as well as other returns.

The pursuit of cost-effectiveness is the exploration of the relationship between resources and learning processes and outcomes. As such it occurs at every level from the one-to-one tutor-student relationship to the college as a whole, and on into government's social and economic policies. To handle this at the level of the college and the local community, the resource manager needs to simplify matters by focusing on the levels within the organisation at which helpful observations and decisions may be made.

Given the current state of colleges' development, once a student has enrolled, the key to cost-effectiveness is the ability to apply resources economically and according to need. Currently this is rarely attended to for three main reasons: the requirement to handle students in groups; the inability of course teams to make decisions between types of resources; and the lack of incentives for course teams either to return unneeded resources, or to promote additional achievement within available resources. A change of emphasis is therefore required by which resource managers provide flexibility and incentives to teams, within a clear managerial framework. To do this the resource manager must understand the direction in which enhanced achievement will flow before establishing those teams. With this in mind, criteria such as level of provision ought generally not to be used, since they contradict the nature of achievement-led resourcing, which is dynamic.

I am therefore proposing that for achievement-based resourcing the resource manager needs to work across several axes: time; factors of achievement; and organisational groupings. This means that the resource manager has to be mobile conceptually and methodologically, and has also to be supported with complementary expertise to his/her own.

THE SEARCH FOR ACHIEVEMENT-BASED RESOURCING IN ONE COLLEGE

In 1987 an analysis of Wirral Metropolitan College showed it to be impoverished in a number of respects, including support staff, student services, equipment and environment, and suitable provision. Simultaneously, the college routinely returned three per cent of its available annual expenditure to the LEA; forewent over £1m per annum of additional available funding; and was plagued by a

reputation for being over-resourced. As a large (group 10) college size, diversity, educational ignorance, and the active and largely undeserved l ility of the LEA, had combined to prevent the development of a resource management capability sufficient to fulfil the college's role and responsibilities and the LEA's educational policies. The management of the college since that time has in essence been an exercise in the upwards convergence of resources with achievement. The exercise has gone through several stages since 1987, and is in effect endless.

Initially the ground had to be cleared in a number of ways. Barriers to the effective handling of resources needed identifying and removing. Such barriers included poor information within both the college and the LEA; changeable procedures within the LEA; internal secrecy regarding allocations combined with a lack of feedback to spending areas; an absence of educational idealism and ideas; an adherence to historical roll-forward budgeting and gradualism in all things; and the espousal of false moral positions as a substitute for the proper stewardship of public resources. These problems had produced their own secondary and widespread effects: such as hostility towards external funding organisations; a nagging concern about new educational needs which would not go away; a belief that women and junior staff were out of place and out of their depth in discussions about money; and a fearful and untrusting environment. These deficiencies were not to disappear overnight, and were only to be overcome with a large-scale long-term strategy.

Wirral Metropolitan College had long been hindered by a lack of clarity and agreement regarding its role and purpose, and this was exacerbated by conflicts and confusions of values. The process of forming a mission statement was therefore an extended one, requiring new standards of thought; however, the core of the mission was evident from the outset. It was ultimately stated thus.

Personal achievement

1) Personal achievement is every individual's right, and the college should organise itself behind the right.

2) The establishment of personal achievement is a powerful aid to learning and motivation; it should be seen primarily in these terms, within a framework of standards.

3) The physical, mental and psychological involvement of learners with their own development and achievement, and that of their peers,

should be adopted as an organising principle for the college.

4) Personal achievement should constitute the core mission of the college. To encourage the college to be self-critical about its ability and preparedness to support personal growth, positive appraisal measures should be introduced and developed for learning teaching and learner support.

Of equal importance to the evaluation of individual achievement was the acceptance of the responsibility to organise the college around achievement. Resource management was regarded as integral and crucial to that organisational shift. The college's critical success factors, which derived from the environmental scan and evolved with the mission, illustrate some aspects of the new approach to resourcing introduced at this stage.

Critical success factors

Capability and culture

Develop a federal organisation.
Create a computer integrated organisation.
Ensure flexible working practices in exchange for adequate reward.
Achieve equality of entitlement and esteem for staff.
Foster innovative strategies.

Quality services

Diversify client services.
Become a leader in client care.
Optimise technology for learning.
Identify and sustain leading edge products and services.
Minimise college-induced problems for clients.

Funding and resources

Minimise costs relative to service given.
Optimise short-term returns.
Optimise a system of funding through clients.

Relationships and systems

Manage volatile situations.
Think globally; act locally.
Become a nerve centre for learning networks and systems.

Encourage ideas which impact statistically.
Help build the new local/regional/national infrastructure and superstructure.

From the mission and critical success factors, strategic plans over five, three and one year were formulated. Over time these have become ever tighter in their objectives, targeting and deadlines, to the point where two implementation groups now operate as 'crunch' groups. However, to maintain the overall forward momentum and handle the large-scale decisions for achievement-based resourcing, four themes were adopted as the driving force:

— student services;
— environment;
— curriculum and provision;
— systems.

The task of global resource management was to facilitate and enable the forward momentum through these themes. To ensure that appropriate decisions were taken and funded also required a programme of research and development, which itself needed to be resourced.

This approach, the selection of four themes and two enablers, enabled the principal to manage the changes overall at a pace which matched the external requirement. Her simultaneous close involvement in research and development was as a fellow researcher needing constantly to upgrade her understanding as a basis for sound large-scale decision-making. Her particular contribution to resource management (as distinct from her formal responsibility for resource management) was to change its role, capacity and structure, and not (initially) its day-to-day character. (Now that the most important next task is to build up the capacity to manage resources within clusters of courses, the principal will be directly involved with this until the other managers gain the necessary confidence and skills.)

Achievement-based resourcing means the acquisition and deployment of resources to facilitate achievement; it is the creation of an upwards spiral; it is inherently dynamic. Given this, there is a need for constant checking to ensure initially that resources galvanise achievement; and then that resources and enhanced achievement are mutually supportive. The college's critical success factors include the need to secure rapid results as well as long-term goals. A new approach requires a kick-start, and each of the four themes mentioned above (student services, environment, curriculum and provision, and systems) was able

to be analysed in terms of the time needed to realise it, its budgetary implications; and its impact upon the college's objectives. **Figure 15** illustrates the way in which student services were defined in 1988. Though by no means up to full steam yet, all the services noted there are now in place.

Figure 15: Services to support learners at Wirral Metropolitan College

Marketing	Open days; workshops; seminars; conferences; taster courses; prospectus; admission, corporate clients/individuals; visits/conventions; referrals; systematic word of mouth; student network; learning pass computer network.
Enquiry	Commissionaire; receptionist; electronic noticeboard; student database; enquiries logged; student admissions officer; databases of units and qualifications available; other agencies; printout of enquirers.
Planning and choosing	Assessment centre; personal profile; diagnostic individual assessment; financial advice; prior learning assessment; expert systems; preferred learning styles assessment; prospectus; mode of attendance; action plans; careers guidance; interviews.
Enrolment	Information to students; financial aid; fees; student handbook; follow up early leavers analysis; records of achievement; flexible enrolment system; computer-based enrolment.
Orientation and induction	Short courses; student union; open learning packages; time management study skills; learning to learn; building student involvement; access to units for learning and/or assessment.
Assessment support	Initial assessment; formative assessment; summative assessment; personal statements; personal development; assessment on demand; NCVQ database; learning framework database.
Learning support	Learning contract; study centre; learning centre; personal tutor system; core; formative assessment; learning framework; open/distance learning; computer network; volunteer peer tutoring; study circles; writing centres; transfer.
Personal support	Careers advice; personal counselling; child-care facilities; health centres; adult network; women's centres; personal tutor; advocacy.
Work based learning	Work placements; simulated work experience; assessment; training trainers; training assessors; training supervisors; training managers.
Accreditation	Summative assessment; portfolios; records of achievement; prior learning accreditations; NROVA; certification; credit transcript; credit transfer.
Evaluation	Student feedback; input into college review; outcomes, exam results, destinations; exit and transfer programme.

Student services can constitute an ideal starting point for achievement-led resourcing, since their resource needs can be met in small allocations during the period when there is little support for radical approaches to resource management. Student services are also important for two additional reasons. First, they represent a concrete shift in thinking towards student-centredness. Secondly, they must be designed, introduced and enhanced before one attempts to remove the course as the organisational plank of the college.

Although student services are not entirely dependent upon accommodation changes, the latter must be addressed from the outset in order to sustain the momentum of change and respond to changes in student behaviour. The planning and design of suites of student services and resource-based learning areas requires time, as does the acquisition of sufficient resources to make the changes. Unlike student services, for which one can take resourcing opportunities as they arise within an overall assessment of costs, accommodation changes are more momentous and cyclical. So as not to lose opportunities for a year at a time, one must always make adaptations both to match other developments undertaken to that date, and also to anticipate the needs for change during the subsequent 12 months. Given the dynamic nature of achievement-based resourcing, any other approach means that accommodation changes lag ever further behind the other developments.

In the case of Wirral Metropolitan College, applications for financial support from potential sponsors, and low cost outline plans for alterations began to be made as soon as we had a notion of our requirements. This led to the exercising of considerable ingenuity at later stages; however, it was only in this way that we achieved the required concurrence of activity and pace of change.

Whilst the early implementation of the above changes involved challenges, particularly for our administrative staff who were then unprepared and unaccustomed to such proactivity, the redesign of provision and the evolution of systems was initially subjected to a detailed research programme funded both internally and externally. A research programme entitled 'Learning gain and achievement-based resourcing' set out to solve the following two problems: to find means of enhancing learning and capturing achievement in such a way as to stimulate motivation, opportunity and capability; and to ensure that resources actively supported this process at all levels. The linking of the two problems was intentional, and still needs frequent explanation. The rationale for making the link was that until we could prove an active relationship between learning and

achievement and resources, we were in no position either to argue for additional resources, or to ensure the cost-effective use of what we had.

Commencing in 1989, the programme initially sought to capture the processes and achievements which are largely excluded from current national qualification arrangements. Working across a sample of student groups and using factor analysis, a number of personal skills 'ladders' were constructed as a basis for assessment. When backed by evidence these now give rise to the accreditation of personal skills. However, the system also captures regression, aspects of which are related to teaching and learning methods. This research has been closely linked to parallel work being undertaken within higher education, the National Council for Vocational Qualifications (NCVQ) and the Unit for the Development of Adult and Continuing Education (UDACE). We have yet to determine the precise relationship of this material to the overall credit accumulation system described below; almost certainly we shall decide this in tandem with the decisions taken about the other aspects of student-driven learning and achievement, such as action planning, assessment preparation and the like. Learning gain, though, has also given the college a means of distinguishing between standards and quality, which is an important feature of any value added approach. There are clear distinctions to be drawn between standards for competent working as defined and assessed for NVQs, for example, and effective working. These need capturing, as does the capacity to be an effective learner, which is different from achieving a qualification.

The second component of the research programme was the design, testing and adoption of a learning framework ample enough to include all provision offered now or in the future by the college. Care was taken not to have the framework either be seen or develop as an alternative assessment system to those already in use; also to avoid unnecessary conformity. The structure of the learning framework was therefore as follows:

scope all provision other than entirely recreational programmes and customised programmes;

purposes freer access; internal movement and progression; assessment on demand; opportunities to catch up, accelerate and manage breaks in learning;

elements classification of course elements by purpose; outcomes as the basis of learning units; obligatory 'natural pauses' for all programmes for

assessment and review at least every 12 weeks;
provision of open and flexible learning facilities;
credit value based on notional learning time;

support services and systems assessment centres;
student records and learning technology.

To introduce the learning framework, units and programmes needed to be catalogued as part of a curriculum audit. This has been a complex task in several respects, from finding means of building in a concern for educational coherence and efficient learning, through to allaying staff fears of loss of ownership of students and subject matter. The technique adopted was initially to test the catalogue's helpfulness to the college's various student and curricular groups, and to encourage staff participation in adapting their provision to an outcomes-based, credit accumulation approach. This laid the basis for full-scale implementation from September 1991.

The college is large, with each of its six faculties comprising 2000 to 11000 students (950-1850 full-time equivalents). Following extensive tests we therefore decided to implement the credit-based system, faculty by faculty, starting with Personal and Community Services because it used every qualification type and delivery mode, and badly needed a fresh approach to resourcing. (This faculty comprises catering, hotel management and leisure, child care, social work, health and medical care, hairdressing and beauty therapy.) A second faculty – Administration, Business and Management Studies – presented no difficulties not already encountered, so started its conversion in February 1992. Three of the remaining four faculties should convert in their entirety by December 1992, and we shall then be left only with aspects of general education to convert. Given the current rapid development of access programmes and processes, and pressure coming from our students for clear and visible progression routes, we have some misgivings about incorporating GCSE and A level programmes within the framework, and are seeking an alternative design base for general education.

The third branch of the research programme was the pursuit of that active link between resources and achievement. It started by noting its rejection of full-time equivalents (FTEs) as the focus of resourcing, and its dismay at the use of this input variable as the critical measure of output. The active unhelpfulness of FTEs can be gauged by considering the pattern of enrolments at Wirral Metropolitan College (**Figure 16**).

Figure 16: Actual and FTE students at Wirral Metropolitan College

Mode of attendance	Students	FTE students
Full-time (long)	2897	2897.00
Full-time (short)	890	111.25
Sandwich	23	17.25
Block-release	192	57.60
Part-time day (released)	5745	1723.00
Part-time day and evening (released)	0	0
Part-time day (non-released)	7149	2144.00
Part-time day and evening (non-released)	0	0
Evening	4690	351.75
Open learning	2416	181.50
Non-vocational (part-time day)	1500	187.50
Non-vocational (evening)	5044	378.30

The situation is then worsened by the Further Education Statistical Record's (FESR) confusion between learning mode and mode of attendance in the case of open learning.

Following the initial research we arrived at a number of conclusions:

— that it appeared practicable to describe and relate the achievements of students in different study areas following different learning patterns, through the development of a concept of credit or credit hour;

— that the same notion of credit hour could be used to help define the commitment of a lecturer, when changes in learning style made class contact increasingly difficult to recognise;

— that the substitution of a case load for a lecturer's teaching timetable facilitated the introduction of more flexible learning arrangements;

— that conventional calculations of case load for open learning work appeared to rule out increases in the efficiency with which teaching staff could be deployed and thereby the availability of additional resources for other forms of support;

— that a 'resourcing grid' could be used to illustrate the nature and extent of the trade-offs which could and should be generated as patterns of learning shifted. Such a grid could lead to a formula which might be used to avoid the constraints of being tied to a particular balance of learning resources;

— that the adoption of a credit or credit hour could substitute for the FTE for external resourcing and monitoring bodies, to the mutual benefit of them and the college.

The implementation of credit accumulation within Wirral Metropolitan College is now bringing together all aspects of management behind a number of major questions. For example:

— Since there is ample evidence that well-functioning staff teams use a rich variety of teaching and learning methods, is it after all possible or necessary to classify a unit in terms of study mode as part of an overall system of achievement-based resourcing? May not the significance of mode of study for resourcing lie at the (important) margins whereby students acquire additional credits at virtually no on-going cost to the college?

— Since the resource manager prevents course teams from achieving significant gains in cost-effective achievement by making separate allocations for staff, physical and material resources, what alternative approaches need now to be designed?

— Assuming that clients will act in their own best interests, what type of

fee structure will (help to) resource the provision and services which underpin and facilitate achievement, and provide incentives to learn?

— Given the mass of feedback available once credits are in place, how is this to be handled internally and externally?

It was recognised from the outset that the college's greatest difficulty was a lack of adequate information; this was so despite the possession of a relatively sophisticated administrative information system. The college was hampered by demarcated thinking in this area, which had given rise to a wasteful array of hardware and software, the outputs of which were of virtually no educational value. Therefore we:

— imported a critique of the then arrangements and approaches from surveys of the applications of new technology in UK manufacturing, and analyses of the uses of information technology in American community colleges;

— developed a rationale for computer integration as the basis of organisational integration; and

— in keeping with the aims of student leadership gave as much freedom and resource as possible to a wholly fresh team of learning technologists.

This approach came from what we knew about making change happen. With an undemanding and immobile student body, unexceptional managers and staff continue to manage the status quo. We acknowledged that unless students at an early stage were introduced to a pattern of learning upon which we could later graft the collection of student information, then we would never be able to collect the data essential to a credit-based approach. Thus, a series of facilities and devices were introduced directly to students; these included the phased provision of a highly sophisticated 400 place (and growing) computer network, together with learning passes and learner organizers, free trials, learner season tickets, family passes and so on. These have all begun to have their desired effect in terms of student demand, discernment, and also step-increases in personal achievement. 'Two for one' is now a realistic qualification offer made to the student, without loss of quality once qualifications are no longer owned by the course team. And whereas with predominantly course organisation, there are additional resource requirements for each extra handful of students; that need not be so with achievement-based resourcing.

CONCLUSION

To end on a personal note again: my original study was literature and the English language, which I was taught to pursue in a highly disciplined manner. My tutor of Old English was quite clear that her role was to develop people capable of surviving a crash landing in the Sahara, and said as much. As the challenge approaches for further education to realise its potential role and purpose within the UK education and training system, it is absolutely essential that matters are not left to unreflective specialists in any one aspect of FE. Despite its diversity FE is amenable to a framework for development, and requires one which enforces dynamism both in achievement and cost-effectiveness. To secure this, the framework must align the two goals of rising achievement and rising cost-effectiveness at every level, including the national one. At college level the talent and commitment generally exist to pursue this positive spiral, but the conceptual and operational support is generally lacking. Within a future funding régime organisational integration might helpfully be made a condition of additional resources, the quid pro quo being that conceptual and operational support is provided from the centre, and influences the national systems for certification and information.

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